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Wisconsin Agricultural Experimental Association
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TWELFTH ANNUAL REPORT

OF THE

Wisconsin Agricultural Experiment Association

ANNUAL MEETING

Madison, Wis., January 9, 10, 1914

ADDRESS OF PRESIDENT, SECRETARY'S REPORT WITH PAPERS AND ADDRESSES GIVEN BY MEMBERS OF THE ASSOCIATION AND OTHERS INTERESTED IN PROGRESSIVE AGRICULTURE

COMPILED BY

R. A. MOORE, *Secretary*

MADISON, WIS.
DEMOCRAT PRINTING COMPANY, STATE PRINTER
1914

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LETTER OF TRANSMITTAL

WISCONSIN AGRICULTURAL EXPERIMENT ASSOCIATION.

MADISON, WIS., 1914.

To His Excellency, FRANCIS E. MCGOVERN,

Governor of the State of Wisconsin:

SIR—I have the honor to submit for publication, as provided by law, the Twelfth Annual Report of the Wisconsin Agricultural Experiment Association, showing the receipts and disbursement the past year, also outlines for experiments, and addresses and discussions given at the annual meeting at Madison, January 9, 10, 1914.

Respectfully submitted,

R. A. MOORE,

Secretary.

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ALFALFA SESSION.

OFFICERS, 1914.

President ..... J. P. BONZELET, Eden
Vice President ..... WM. LEONARD, Jefferson
Secretary ..... R. A. MOORE, Madison
Asst. to the Sec'y. ..... J. J. GARLAND, Madison
Treasurer ..... N. R. RAESSLER, Beloit
Clerk and Stenographer ..... CLARA BRABANT

COMMITTEES.

Program:
Officers of the association.
Executive:
Officers of Association, Ex officio:
Geo. W. Davies ..... North Freedom
J. R. Thorpe ..... Tavera
A. L. Stone ..... Madison
Jesse Van Natta ..... Dodgeville
Frank Bell ..... Columbus

Resolutions:
J. B. Cheesman ..... Racine
C. P. Norgord ..... Madison
H. E. Krueger ..... Beaver Dam

Finance:
C. P. Norgord ..... Madison
H. N. Longley ..... Dousman
H. E. Krueger ..... Beaver Dam

Coöperative Experiments:
Farm Crops ..... R. A. Moore
Soils ..... A. R. Whitson
Farm Engineering ..... F. M. White
Agricultural Chemistry ..... E. B. Hart
Agricultural Extension ..... K. L. Hatch
Farm Management ..... D. H. Otis

CONSTITUTION AND BY-LAWS.

CONSTITUTION

Article I.—Name.

This organiation shall be known as the Wisconsin Agricultural Experiment Association.

Article II.—Object.

The object of this association shall be to promote the agricultural interests of the state:

1st. By carrying on experiments and investigations that shall be beneficial to all parties interested in progressive farming;

2d. To form a more perfect union between the former and present students of the Wisconsin College of Agriculture so as to enable them to act in unison for the betterment of rural pursuits in carrying on systematic experiments along the various lines of agriculture;

3d. By growing and disseminating among its constituency new varieties of farm seeds and plants;

4th. By sending literature bearing upon agricultural investigations to its membership, and

5th. By holding an annual meeting in order to report and discuss topics and experiments beneficial to the members of the association.

Article III.—Membership.

Section I. All former, present and future students and instructors of the Wisconsin College of Agriculture shall be entitled to become members of this association.

Sec. II. Honorary membership may be conferred upon any one interested in progressive agriculture by a majority vote at any annual or special meeting of the association.

Article IV.—Dues.

A fee of fifty cents shall be collected from each member annually.

Article V.—Officers.

The officers of this association shall consist of a president, vice president, secretary, and treasurer, whose terms of office shall be one year or until their successors are elected.

Article VI.—Duties of Officers.

Section I. It shall be the duty of the president to preside at all meetings of the society and enforce the observance of such rules and regulations as will be for the best interest of the organization; to appoint all regular committees as he may deem expedient for the welfare of the association.

Sec. II. In the absence of the president, the vice president shall preside and perform all duties of the president.

Sec. III. It shall be the duty of the secretary to keep all records of the association; to report the results of all coöperative experiments carried on by its membership and the experiment station, plan the experimental work for the members of the association, and labor for the welfare of the society in general.

Sec. IV. The treasurer shall collect fees, keep secure all funds of the association and pay out money on the written order of the secretary, signed by the president. He shall furnish bonds in the sum of two thousand dollars with two sureties, for the faithful performance of his duties.

Article VII.—Amendments.

This constitution may be amended at any annual meeting by a two-thirds vote of the members of the association present.

Amendment No. 1.—Adopted Feb. 9, 1906.

Any person residing within the state having completed a course in agriculture in any college equivalent to that given by the Wisconsin University may become a member of this association under the same regulation as students from the Wisconsin College of Agriculture.

Amendment No. 2.—Adopted Feb. 11, 1909.

Any County Agricultural School within the state may be admitted to membership of the Experiment Association upon request by the principal of such school and the payment of an annual fee of $1.00.

BY-LAWS.

Article I. The officers of this association shall be elected by ballot at the annual meeting.

Art. II. The president and secretary shall be ex officio members of the executive committee.

Art. III. This association shall be governed by Roberts' Rules of Order.

Art. IV. All members joining at the organization of this association shall be known as charter members.

Art. V. The time and place of the annual meeting shall be determined by the executive and program committees.

Constitution adopted and organization effected Feb. 22, 1901.

TWELFTH ANNUAL REPORT

OF THE

Wisconsin Agricultural Experiment Association

PRESIDENT'S ANNUAL ADDRESS.

J. P. BONZELET, Eden.

Fellow members, ladies and gentlemen: The duty has fallen upon me to call this meeting to order, and deliver the President's annual address. We as one of the largest organizations in Wisconsin have great reason to feel proud, not alone because of our size, but because of our great work and progress. From a small membership we have grown to nearly the 1500 mark. This has not been an accident nor a lucky move. It has been brought about by a number of factors. First, by the untiring efforts of our worthy secretary. Second, by the quality and amount of actual and practical work done by the members of this association. Third, because the farmers of the world recognized the good work that was being done and were anxious to become members or patrons of the members in the purchase of *pure bred and pedigree* seeds.

I can remember when the call for the seeds grown by our members was in such demand that it was and is now a problem how to supply it. For that reason at the last meeting it was decided to appoint an inspector whose duty it should be to inspect the farms of the members growing *pure bred or pedigree seed* grains or corn and take control samples for comparison should any members try to sell inferior stock. Up to date the inspector has visited about 150 members and has been ready to give advice where needed. By this method it is safe for the association to guarantee the seed sent out which will protect the buyer to the fullest extent, and at the same time it will not burden any members with expense as the fee charged will be $2.00 for each inspection.

I feel that this will prove to be of great value to all concerned as it is very important that we keep up the high quality of the seeds grown and sold by our members. Without inspection, a few dishonest members could ruin the good name of our association in a very short time. It will, no doubt, prove to be a great help to the honest grower as it will create a greater demand for the seed that has passed inspection and is listed as such.

It will also be of great value to the buyer as it will give him assurance that he will get the kind of seed that he wants and that it will be free from weeds. If it is not of high quality and free from weeds he can send a sample to the secretary who in turn will compare it with the sample taken by the inspector, and should it be of poorer quality than the inspector's sample, it will be an open attempt of dishonesty and his name will be removed from the membership of the association and be severely dealt with. I do not believe that there are any in our association that would knowingly attempt to be dishonest, but the buying public is entitled to this protection and will appreciate it fully.

As the inspector will give an account of his work later on I will not go into the details, but feel sure that if the work is continued we will have a perfect method of inspection worked out. It may be found that our present method will have to be changed some, but in a general way feel sure that it will be found satisfactory.

Another matter that I might mention is that there seems to be a tendency for members of county orders to feel timid about making a county exhibit at the state fair. Do not hesitate as if you were in great danger. Go ahead and do the best that you can and keep on smiling; whether you win or lose be friendly with your brother orders and give and take advice. If you are beaten you will at least know why and try and do better next time. In that way the quality of the county exhibits will improve from year to year and the friendship will be worth a great deal to all concerned. Too often at shows the spirit of jealousy creeps in and spoils a great deal of the good that should be enjoyed by all.

In closing I ask that you all feel that this is your meeting and be free to take part in the discussions and give your results whether successful or failures. If you are successful, others want to know about it; if you failed others will help you. In that way, our meeting will be of the greatest value to all.

REPORT OF THE SECRETARY, 1913.

R. A. MOORE.

Fellow Members of the Experiment Association:

For the 12th consecutive time has it been my special privilege to appear before you for the purpose of reporting the work in progress and give advice as to future plans of the Association. It pleases me at this time to speak of the great strides made in the task undertaken and the merits of the work in hand. The work we have accomplished has far exceeded my expectation and when I consider we have only as yet begun to enter this great field of progress there seems no end to the accomplishments we may be able to attain.

MEMBERSHIP.

The membership is gradually increasing and January 1st, 1914 had reached a total of 1435, an increase of 87 over that of January 1st, 1913. The general membership of the association is much larger as only the fully paid up members of the association are counted.

COUNTY ORDERS.

The formation of County Orders has gone on gradually. We now have 37 of the counties organized doing effective work. These local orders can reach many in need of information direct, that cannot be reached by the State Association. Any one interested in agricultural progress can unite with the County Order. While I cannot at this time give you the exact membership of all the County Orders, yet a conservative estimate would be that all the orders combined would have a membership as great as the State Association.

NECESSITY OF SEED INSPECTION.

We have now reached that period in our seed work where the continued success of our association will largely be determined by the quality of seeds put upon the market by the individual members of our association. While the membership was small, it was

not a difficult task to watch the shipment of seed, but our growth has been so marvelous and the quantity of seed grown and put upon the market such a vast amount that in order to maintain excellence of quality, and to prevent one or two careless individuals working an injustice to the aims and purposes of the association, a rigid inspection is necessary.

For four years we have tried to bring about seed inspection but lack of time and funds prevented the association making the inspection as it should be. Last year an assistant was given to the secretary with whose help many matters pertaining to the betterment and more thoroughness of our work have been accomplished.

The seed inspection work has been put on a firmer foundation and through the plan of selling inspected seeds under the registered seal of the association, assures me that an advanced step has been taken for the interest of all seed growers of the association and also the many purchasers. If the Association accomplishes the purposes for which it was formed all possible safeguards must be taken to prevent any seed except the very best to find its way upon the market. The farmer who is purchasing through his faith in our organization must not have this confidence shattered by securing seeds of an inferior quality from a single member of our association.

We have made great advancement in the method of selling corn and have nearly succeeded in banishing the old scoop-shovel method of selling seed. The only true way of selling seed corn is in the ear but this necessitates the education of both grower and purchaser. The purchaser is so apt to think he should have show ears that it is occasionally discouraging to the grower to put on the market, good, honest fire-dried seed corn in the ear without hearing complaint. The fire-drying shortens the ear and reduces the diameter so that the purchaser often renders complaint of small corn when he is being well treated.

However, we must be patient as the ear method of selling seed corn is the only true method and we should adhere steadfastly to this rule. We will surely win out in the end, although it may work a hardship to some growers at the present time. No opportunity should be given any one to work off corn shelled from nubbins or inferior ears. There is a strong temptation on the part of the grower to select a large percentage of seed corn from his fields as his sales increase and by so doing, decrease the quali-

One hundred and fifty-four young people were awarded trips to Madison and a week's scholarship as winners in the Pure Bred Grain Growing Contests in 1913.

ity of his corn. This practice we must guard against and discourage as our every aim at the present time should be to send out the best seeds in the world so as to continue to hold the world as our market.

Our farm inspector Mr. Garland will go into the details of the inspection work later, consequently I merely emphasize the great good I feel will be accomplished through the system.

Our good neighbor Canada, like ourselves, realizes the necessity of seed inspection and now through her Experiment Association requires rigid inspection twice a year; once while the grain is growing and again when the seeds are ready to put on the market. The inspector seals the sacks of all seed grains after inspection and only inspected seed is allowed to be offered for sale. For a year or two after this rigid inspection was introduced, the sales of seed dropped off materially, but that put upon the market was of such superior quality that better prices could be secured and a general confidence in the association seed grains was established everywhere.

Our slogan in the pure bred seed campaign should be "**Quality—quality—quality.**"

ROTATION OF CROPS AND LIVE STOCK.

Every pedigree seed grower should follow a systematic rotation of crops upon his farm and have as much live stock as the farm will conveniently carry. We must avoid soil robbery and look to the future as well as the present if we are to long succeed. By occasionally throwing some deep rooted crop like alfalfa into our rotation we add to the humus content of the soil and help the aeration and drainage. We should also follow the plan of sowing some alfalfa seed with all grass seeding so as to have a few plants established on the farm that will become bacteria distributors to aid in the establishment of alfalfa upon our farms where our desire is to do so. We should also continue to grow a small piece of alfalfa for seed, as we are yet dependent for our alfalfa seed almost entirely from outside sources.

Seed grains should not be grown upon a single field more often than one year in four. However, where our farms are in good condition and properly manured a seed grain crop and a crop of clover seed can be taken within the four years. Live stock is very essential and should go hand in hand with seed production. Our members should feel the necessity of only sell-

ing that portion of their grain crop for seed that is up to the highest standard. Not more on an average than 50% of the small grain crop and 25% of the corn crop should be used for seed and the remainder marketed through the farm animals and the fertility returned to the land.

Ground that is properly fed, will not only give a higher yield per acre, but will yield an exceedingly greater percentage of seed grain. This great factor should not be lost sight of as in many instances by the proper care and feeding of the soil, as many seed ears of corn can be taken from an acre as could be secured from 10 acres that was not handled properly. We should remember we are as yet merely beginners in this great work of promise. To each and every member who is willing to throw brains into his work there is nothing but success to meet his endeavors. Every one of the members can make a national and international record for himself in this great field of promise.

Under the able management of its officers the Alfalfa Order has made wonderful strides and while yet only a little over two years old it is wielding a state wide influence upon alfalfa production that could not be secured in any other way. Through the hearty coöperation of our 700 members tests are being carried on with different varieties of alfalfa, and under various conditions, that will be of untold value to our farmers. Field tests are being run in close proximity to the main highways that become object lessons for all farmers traveling such roads. This dissemination of alfalfa education throughout our state is worthy of special commendation.

OUR PURE BRED GRAIN SHOW.

Our show of grains and forage plants has been a great educator to all who have had an opportunity to visit it and get a clean cut mental picture of the prize winning samples. It seems quite necessary for the seed grain growers to have that mental image ever before them as a guiding star for perfection. I wish that more of the members had an opportunity to study the samples.

Our many friends through generosity and kindness have made it possible to give substantial prizes to encourage the best efforts of the membership. The time is rapidly approaching when it may become necessary to let members qualify as professionals

and compete merely in that respective class and not in the general competition. We find the younger membership need the same inducements and encouragements that our older membership needed at the time they were starting in this great work. I feel that practically all of our expert seed growers for the good of all concerned would welcome the idea of the professional class as soon as the standard can be definitely devised. No body of coöperators have ever stood more valiently for the helping of his fellow man than members of the Experiment Association. The feeling that should prevail everywhere and in every bosom of each conscientious member is that success attained by one is a victory for all. With that brotherly feeling no enemy can ever pervade or enter our ranks and with a solid front we can march onward to victory. Dissension and petty jealousies mar the conscience and cause the participants to become weaker until in this very weakness they drop by the wayside. I trust that the loyalty that has characterized our endeavors in the past shall shine as brightly in the future over each and every member of the Experiment Association.

REPORTS FROM MEMBERS OF EXPERIMENT ASSOCIATION ON THE YIELDS OF PEDIGREE GRAINS GROWN IN 1913.

Pedigree Barley.

Number members reporting		181
Average yield Pedigree Barley	bu.	31.5
Practically no other varieties now grown by members.		
Average yield for U. S. (U. S. Year Book)	"	23.9
Difference in favor of Pedigree Barley		7.6

Pedigree Oats.

Number members reporting		166
Average yield Pedigree Oats	bu.	52.8
Average yield other varieties in Wis.	"	41.5
Difference in favor of Pedigree Oats	"	11.0
Average yield for U. S. (U. S. Year Book)	"	29.3

Pedigree Rye.

Number members reporting		30
Average yield Pedigree Rye	bu.	26.1
Practically no other varieties now grown by members.		
Average yield for U. S. (U. S. Year Book)	"	16.3
Difference in favor of Pedigree Rye	"	9.8

Does the time you plow have any effect on your yield? Note the difference in production from Fall and Spring Plowed Land.

YIELDS OF BARLEY ON FALL AND SPRING PLOWED LAND.

	Fall Plowed.	Spring Plowed.
1912	38. bu.	31.0 bu.
1913	33.7 bu.	29.5 bu.
Average yield	35.8 bu.	30.2 bu.
Difference in favor of Fall Plowing 5.6 bu.		

YIELD OF OATS ON FALL AND SPRING PLOWED LAND.

	Fall Plowed.	Spring Plowed.
1912	58. bu.	49. bu.
1913	54.9 bu.	50.8 bu.
Average	56.4 bu.	49.9 bu.
Difference in favor of Fall Plowing 6.5 bu.		

CORN ON FALL AND SPRING PLOWED LAND.

Average yield on Fall Plowed	66.6 bu.
Average yield on Spring Plowed	62.2 bu.
Difference in favor of Fall Plowing	4.2 bu.

EDWIN B. SKEWES

IN MEMORIAM.

EDWIN B. SKEWES.

Whereas this Association records the passing of a loyal member, and a most active worker in our ranks; and the Racine County Order of this Association, its founder and faithful Secretary, and standard bearer; Be it resolved that we the Executives of the County Orders of the Wisconsin Agricultural Experiment Association in annual meeting assembled do record our high appreciation of the character of our revered member, his usefulness as a wise counselor, his untiring efforts for and devotion to the objects and aims of our Association.

That a copy of this resolution be mailed to the widow and family, of the deceased.

Edwin Bottomly Skewes was born on Grovean Farm, Ives Grove, Racine Co., Wis., January 30, 1858. He received his early education at Ives Grove, district school. Later he attended Racine high school, Beloit College and then Lawrence University. From the latter institution he was graduated with honors in 1887. Immediately after his graduation he tried traveling for a part of a year, and then returned to the farm.

In 1890 he was married to Alice Collier. Three children were born to them, Arthur E.; Alice Ruth; and George J.

In the Fall of 1900 he rented his farm and moved to Madison, Wis. Here he remained in attendance upon Agricultural Departments of the State University until Feb. 1902, when he again returned to the farm.

Somewhere about 1880 he conducted agricultural experiments at home under the direction of Cornell University. (Just what these experiments were, and of the exact date I am not sure) About this time he organized Chautauqua Classes or Circles.

While in Madison he joined the State Horticultural Society and took some work along horticultural lines. It was a little while, after his return from Madison, before he joined the Agricultural Experiment Association.

Besides the seed grain work, he started, some years ago, to build up a herd of Guernseys.

Social community work has always been one of his chief aims, and he did a great deal in his neighborhood toward bettering country life. Music was one of his tastes and for many winters he conducted either singing schools or concert clubs, or other musical organizations. For over ten years, after his return from Madison, he was superintendent of the Sunday School of Ives Grove. A little over a year before his death he resigned his position, because he thought he could do more if he was not tied fast as superintendent.

At the age of sixteen he joined with the Bible Christian Church of Ives Grove, and later transferred with the Ives Grove Society to the Methodist Church. He had been an active member of this church all the rest of his life.

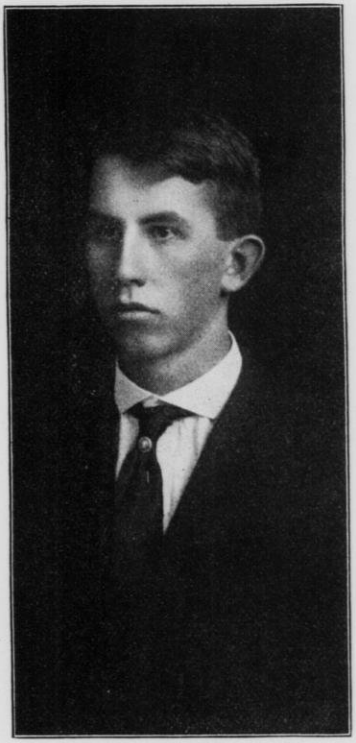
He held the office of county chairman, of the Prohibition party, for some years in the 1890's.

ARCHIE M. MARTIN.

It is with sadness we call the attention of the brother members of the Association from time to time to the departure of our faithful workers. It is especially sad when we are obliged to mention one so young and full of promise as Archie Martin, taken from us at the very threshold of promise in the great field of Agriculture.

Archie M. Martin was born and reared on the home farm at Gotham, Richland county, and at the time he was suddenly taken from us, October 27th, 1913, was 21 years and 4 months of age. His parents had given him every opportunity to properly prepare for the management of their beautiful pure bred grain and stock farm at Gotham. In his early years he attended the rural home school and the Gotham graded school, finishing a high school course at Lone Rock with the highest honors at the early age of seventeen. He later attended business college and then completed the Short Course in Agriculture at the State University.

While at the University he manifested a deep interest in the work of the Experiment Association and became one of its ardent



ARCHIE M. MARTIN

members. His aims and purposes were to coöperate with thousands of other loyal members and forever banish scrub grains and scrub stock from the Wisconsin farms. With his careful preparation and youthful enthusiasm for the great task he was undertaking he threw himself into the work with all energy and zeal, only to have the thread of life suddenly cut when in full vigor of youthful manhood.

The writer knew Archie Martin through his boyhood days and with his father, Regent J. W. Martin, and his brother and sister, feel his loss very keenly.

The Wisconsin Experiment Association will always realize the great worth of its departed member, Archie M. Martin.

OPPORTUNITIES IN NORTHERN WISCONSIN.

BEN FAAST, Eau Claire.

Northern Wisconsin offers such a wealth of opportunities, that a short talk will allow only the most general discussion. It is a subject filled with interest and one that every Wisconsin citizen should become familiar with.

We, who live and work in the northern part of our state, are enthusiastic over the wonderful undeveloped possibilities of that section. We believe that no greater agricultural opportunities exist anywhere, than are found right within the borders of our own state. Yet, at the same time, we recognize the good in other sections.

Before touching upon what northern Wisconsin offers the farmer, will just briefly refer back to the history of Wisconsin's development.

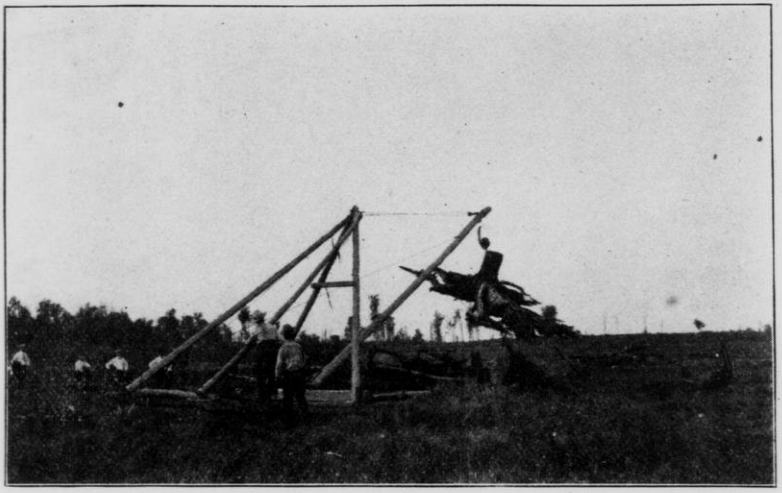
Many ask the question, "If there are such great agricultural opportunities in upper Wisconsin, why have not the lands been taken up long ago?" Let us glance back a few years.

From our eastern coast the farmers moved across the Alleghenies farther and farther westward, into Ohio, on into Illinois, southern Wisconsin and Iowa; then passing by the timbered regions of upper Wisconsin they moved across into the Dakotas and northward into Canada always seeking and always following the path of least resistance. What has been the result? Look at the east and see the thousands of depleted and deserted farms. Land was too cheap and too plentiful to farm with any thought of maintaining soil fertility. It was easier to abandon the old farm and move to virgin lands farther westward.

Generally speaking these undeveloped cheap lands of the prairies are no more to be found. The seeker for a rich virgin farm home must look to other regions.

Then, too, times have changed. The farmer of to-day demands more, because the consumer of farm produce demands more of the farmer. Transportation, market facilities, social and educational advantages are some of the main requisites of the modern farmer and homeseeker.

While other regions have given to the farmer of the past the



Clearing the land for a home in the rapidly developing northern part of the state.

The young man without a farm should consider what Northern Wisconsin has to offer before he goes west.

prairie lands, northern Wisconsin attracted the lumberman and the manufacturer.

As the farmer passed by the Wisconsin timber regions in his rush for the prairie land, the lumberman was cutting away the heavy forest. The manufacturer built cities and dotted them through this forest region. The railroads built a network of transportation lines connecting these manufacturing cities with the markets of the world. A glance at the map will convince you of the excellent market and transportation advantages of this entire northern region. Again, the local demand, for farm produce, in these manufacturing cities give to the northern Wisconsin farmer the best of local markets at his very door.

Little did we realize how kind nature has been to this region. The mantle of timber, that for centuries covered this land, was a protection against the wasteful farming methods of the past. It has kept for the homeseeker of to-day an empire of undeveloped agricultural resources; a rich land of opportunity lying right in the center of the American continent, in the very heart of civilization.

It required a wonderfully productive soil to produce such vast forests of magnificent timber. Now that the timber is removed, we still have that same fertile soil covered with a deep layer of rich humus, formed by leaf and vegetable mould, the forest's deposit of centuries.

It is needless to tell you of the interest taken to-day in upper Wisconsin lands by the farmers the country over. We all know that the tide of immigration has turned to the "cut-over" lands of Wisconsin. Homeseekers from every state, and from foreign countries, are moving into this region. Ask yourself this question—"are the Wisconsin farmers getting their share of these lands?" Are you allowing the farmers and farmers' sons from Iowa, Illinois and foreign states to get their choice of these rich virgin lands while you let your opportunity slip by?

It is generally true that we fail to recognize the good things at home. That the opportunities at our own doorsteps go begging until some stranger comes along and takes them from us. Too many of our sturdy Wisconsin sons are looking for golden opportunities in the far distant west or northwest, because things afar appear brighter.

This one thought I would like to impress deeply on the mind of every Wisconsin farmer—investigate first the great possibilities within the borders of your own home state.

You know Wisconsin conditions better than any one else. You know what crops do best, what kinds of live stock are best adapted to your methods of farming. You know the cost of operating and your marketing problems. And better than all these, you know where you can get the best of help and advice in case you meet problems that call for help. Our state government and our great University are doing for our farmers what no other state in the Union is doing. On some of these matters we may differ in opinion and we have our problems in Wisconsin, so are there problems in other lands.

The productive power of the virgin lands of the north is beyond question. It is a well recognized fact that new soil has greater fertility than lands that have once been farmed. What has been removed by crops cannot be fully restored by commercial fertilization. Therefore, you have a richer soil in the cheap virgin lands of the north than in the soil of the high priced and old farming sections.

The problem of opening new farms is always an interesting subject and one that calls forth much discussion. The problem is much simpler and the cost much less than generally supposed. The old grub hoe methods of clearing land, are just as much behind the modern methods, as the cradle and reaper are behind the modern binder.

A better knowledge of conditions and modern machinery, are opening into farms our cut-over lands of the north, at a much faster rate than ever before.

A new farmer can fence his land, sow clover among the brush and stumps and turn in his cattle and hogs. In the fall the surplus stock can be sold. This live stock will do much towards clearing land while at the same time earning a profit. In a hardwood region 3 to 5 years will rot the stumps. In the average pine country 5 years of pasturing will see the stumps heaved pretty well to the surface of the ground. The wood and logs will easily pay for the labor of removing. Then remember this—the cost of clearing is but for once. Once cleared it is cleared forever. The irrigation or drainage cost is a tax for every year you farm.

The matter of transportation and markets is an important item. A farm located a long distance from the market centers, has many problems that upper Wisconsin farmers never have to face. Long hauls to market are a perpetual tax on every year's crop, and a tax on everything the farmer buys in return.

View of Ben Faast's farm in Rusk County where Pure Bred Grains and Dairy Stock make an ideal combination.

The clovers and grasses are a profitable crop for the new settlers.

Time will not permit going into detail on the many advantages offered the farmer in the northern half of our state. I want to urge you to investigate—study all conditions carefully and then take a trip into the richest parts of that section. Look at the wonderful growth of clover and grasses everywhere; the grains, corn, the vegetables and fruit. You will see some of as fine modern buildings and as excellent herds of blooded and grade stock as can be found in any country. You will find a sturdy and a progressive people.

Northern Wisconsin opens the door of opportunity and extends to you the hand of welcome. But she is not pleading today as in former years. Farmers from all sections of our country have awakened to the rich agricultural wealth of that section—so long in hiding under the cover of her forests. The dawn of a greater day has already broken forth upon upper Wisconsin. With open door she welcomes to her lands of plenty, the highest type of citizenship and promises two-fold return for all who join forces with her energetic and happy people in their ever advancing march of progress.

HOW SEED INSPECTION HELPS THE MEMBERS OF THE EXPERIMENT ASSOCIATION.

H. Lunz, Asst. Seed Inspector.

High grade seeds are produced only under the most favorable conditions. Prize winning grains cannot be produced on weed infected fields. To some extent we have been able to produce disease resisting strains of grains and seeds, but it is useless to attempt to produce weed resisting strains, as weeds take from the soil the nourishment that the seeds need to develop into a plant.

For many years we have been improving the yields and quality of our grains. The weeds unaided have increased their yield and in most instances their quality also. The time has now come that if we desire to further improve our grains or even to maintain their present high standard, we must turn our attention to the problem of weed eradication.

Weeds come on our farms in two ways: Either they grow from plants or seeds already on the farm or from seeds or plants that

are brought on the farm from outside source. It thus follows that weed control must not only consist of eradication of the weeds already on the farm but must prevent the introduction of weeds from outside sources. There are various ways in which weed seeds are being introduced on our farms, but the most common method is by sowing agricultural seeds in which weed seeds are present.

In this way not only the number of weeds but also the number of species is increased. Ten years ago no noxious weeds could be found in many parts of Wisconsin; to-day there is hardly a section in the state without its quota of noxious weeds. These were introduced mostly through agricultural seeds bought for seeding purposes. Many a farmer has sown grains or grasses and afterward has wondered where the buckhorn, mustard or thistles came from. Many of these new plants were new to him and he failed to recognize them as noxious weeds until they had obtained such a foothold that it was almost impossible to eradicate them.

The numbers and varieties of weed seed found in agricultural seeds are many and it is often impossible for an untrained eye to detect their presence. With these facts in view, the legislature of 1909 passed a seed inspection law which with some minor amendments by the legislature of 1913 is now in force. This law plainly states that all agricultural seeds being held or offered for sale for seeding purposes shall have attached to the container a label upon which is plainly written the name of the dealer selling same, the germination and the purity test of the seed, the number and kind of noxious weeds present and if the seed be alfalfa, corn or cereals, the locality in which the seed was grown must be stated thereon. Seed that contains a greater number than one to one thousand of noxious seeds is not salable in this state.

For some time prior to the enactment of this law, Wisconsin was the dumping ground for the seeds that were unsalable in other states. Cheap seeds were very common and a farmer who had pedigreed and tested stock for sale was unable to obtain a reasonable price. This law not only protects the buyer but it also protects the raiser and seller of pedigreed seeds against unfair competition. Your competitors' seeds as well as your own, must be labeled as to their true value.

Members of the Wisconsin Experiment Association are espe-

cially interested in buying as well as selling, good seed, such seeds as will produce the best results for the least outlay. As an illustration to show what I mean, compare the actual values of the two samples of clover that the field inspector recently found for sale in this state:

In germination alone lot No. 1 is worth one-seventh more than No. 2 and in purity about one-thirty-sixth more. This shows nothing for the weeds with which one would infect his farm if he sows this lot of seeds. Using lot 1 as a standard and comparing lot No. 2 with it, to get the same number of germinable seeds one-sixth more would need to be purchased. The same number of such seeds would cost $16.91 in this lot as compared with $16 in lot No. 1. This means that in a cash comparison lot No. 2 is worth $13.34 per cwt. instead of $19.50 as compared with lot No. 1. Also where the germination is low it usually means that among those that do germinate, many are weak and will not produce a mature plant.

TESTS AND VALUES OF TWO SAMPLES OF CLOVER SEED.

	Germination	Purity	Foreign Seeds	Inert Matter	Cost per Cwt.
1.	96%	99.7%	0.2%	0.1%	$16.00
2.	84	96.3	1.8	1.9	14.50

You are all familiar with, and many of you no doubt have had experience, in planting corn that did not germinate, or you discovered too late that it was a southern grown variety, that would not mature here. It is also probable, that you have sold a Wisconsin grown variety, and have been asked to compete with a corn of the same variety but probably grown farther South. According to the present law, all containers of corn must have plainly stated on the label, the locality where it was grown. This one feature alone will save the farmers many dollars annually.

Up to this date I have inspected nearly one hundred seed houses. In general, dealers are willing to obey the law and coöperate with us but some are slow and fail to realize the importance of good seed.

Good results have already been accomplished in the growing and dissemination of pure bred seeds. Your Association has done a great deal in the work of seed inspection, both as to enactment and enforcement of the law. No law can be successfully enforced unless the people are in sympathy with it and are behind it. The

members of this Association not only have an opportunity to coöperate with us in its enforcement, but you have a responsibility as well. This law is for your benefit and if you demand its enforcement it will be enforced. The effort that it will be to you will be small and the benefits to all will be large.

The members of this Association have a reputation that must be maintained. Do not sell a lot of seed that is not first class and true to label in every respect. Plainly label every sack of seed you offer for sale and when buying seed demand that every container be labeled. Your influence is far reaching and your help along this line will not only benefit you, but will be of vast importance to every user of seed in the state.

PURE BRED SEED SPECIAL VISITS ELEVEN COUNTIES.

The Milwaukee Chamber of Commerce, Wisconsin Bankers' Association, Chicago & North Western Railroad, and Agricultural College Coöperates to Demonstrate the Value of Pure Bred Seed Grains.

FROM "DOINGS IN GRAIN AT MILWAUKEE."

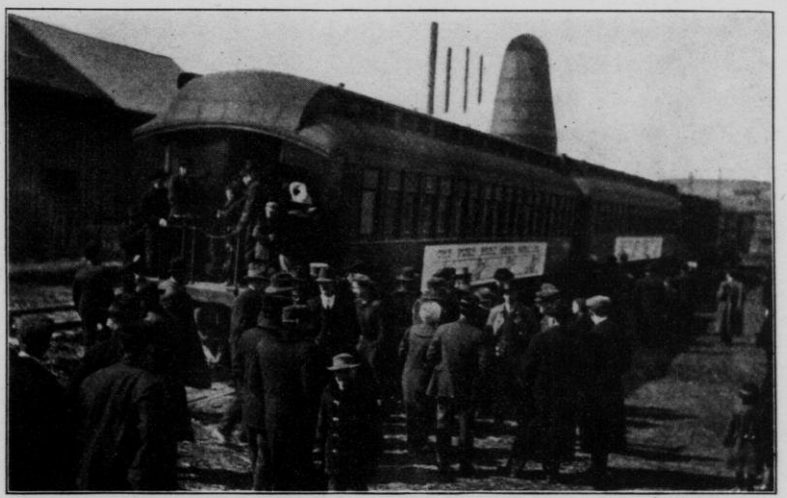
Our Seed Grain Special left Madison on March 9th and Milwaukee on the 10th for a trip through the tier of counties bordering on Lake Michigan to the north of Milwaukee, then swinging around to the central part of the state and returning to Madison on the 22nd. The plan was to include eleven counties, making stops of practically one whole day at the county seats in each, where representatives of the Bankers' Association, the Chamber of Commerce, the Experiment Association, and the Railway Company would meet with the local farmers.

Every effort was made to make the trip a success from every angle, and the State Bankers' Association did much of the work through its Agricultural Committee in advertising the dates on which the train was to stop, securing halls for lecture purposes and making all neccssary arrangements.

The "Special" consisted of two cars which were attached to the regular passenger trains and thus taken from place to place.

Interior view of exhibit car on the Pure Bred Seed Special. The prize winning Wisconsin grains from the National Corn Show were of great interest to thousands.

The Wisconsin Bankers' Ass'n is cooperating with the College of Agriculture in conducting Pure Bred Seed Grain Contests with the farmers and young people of our state.



The Pure Bred Seed Special at Oconto where over two thousand people inspected the exhibit.

One car was fitted up with all the varieties of Pure Bred Seed Grains that have made Wisconsin so famous. The prize winning exhibits which had recently taken the championship and sweepstake prize at the National Corn Show at Dallas, Texas, were one of the most interesting and attractive displays on the car. The Chamber of Commerce had an exhibit of samples showing the various grades of grains as they are classified under the inspection rules on the market.

Modern Methods of Plant Breeding were also illustrated as were methods for testing seeds and treating grains for prevention of smut.

Mr. Plumb, Secretary and Treasurer of the Chamber of Commerce, accompanied the train, and, in the course of talk at each of the places visited, described the functions of the Milwaukee Chamber of Commerce, and showed the manner in which grain and other agricultural products are bought and sold on the floor of an Exchange. He also explained the sampling, grading, and weighing of the property upon its arrival which is done by the Chamber. Stereoptican slides were also used in order that the producer might gain a correct knowledge of what happens to his grain when it reaches a terminal market.

Professors R. A. Moore, K. L. Hatch and C. P. Norgord accompanied the train and gave lectures and demonstrations at every stop. J. P. Bonzelet, H. E. Krueger and John J. Garland also gave talks at the meetings and explained the exhibits in the car.

The Bankers' Association was represented by its secretary Geo. D. Bartlet of Milwaukee on part of the trip and by H. A. Von Berg of Mosinee, and Earl Pease of Grand Rapids, who divided the remainder of the trip between them. It was the intention of the bankers to arrange for corn and grain contests in each of the towns visited to be conducted by the local bankers and business men.

One important object of the trip was to organize in the places visited, County Orders of the Experiment Association, and in those towns where there were County Orders to hold the annual meeting on the day the train arrived.

Morning meetings and demonstration work were conducted in the cars during the forenoon. One of the cars was fitted up for lecture purposes, and short meetings at which several speakers talked on timely subjects were constantly going on all the morning. In the afternoon, the big meeting was held in the local halls

or opera house, and at only one place on the trip was the hall able to accommodate the crowds that came.

Mr. A. C. Johnson, Passenger Traffic Manager of the North Western Road, took a personal interest in the arrangements and schedules for the cars so that there were no delays or inconvenience and every one was very grateful to the Northwestern and its employees for their courteous and generous treatment.

The grain dealers, bankers and county superintendent at each of the places where stops were made joined forces in taking care of the preliminary work that is necessary to the success of such a trip. The local newspapers along with the Milwaukee Journal gave generously of their space to advertising the Seed Grain Special, and the wide publicity thus insured a large attendance which was certainly a reality.

One of the noticeable features of the trip was the large number of young people who visited the car and attended the lectures. At almost every place the schools were dismissed long enough for the children with their teachers to see the exhibits. At Wausau the children were offered prizes for the best essays that could be written about the grains and exhibits in the cars which stimulated keen interest in all of them.

Several thousand copies of "Doings in Grain" and "Rules and Regulations for Grain Inspection," publications of the Milwaukee Chamber of Commerce, were distributed at the various places. Also the Agricultural bulletins of the Wisconsin Bankers' Association and from the College were given to all interested.

Places Visited and Total Estimated Attendance at the Meetings.

March	10	Pt. Washington	1300
	11	Manitowoc	1500
	12	Green Bay	1000
	13	Oconto	1800
	14	Appleton	1000
	16	New London	1200
	17	Wausau	1100
	18	Neillsville	1400
	19	Black River Falls	1000
	20	Elroy	900
	21	Baraboo	300
			12500

THE INSPECTION OF SEED GRAINS FOR THE EXPERIMENT ASSOCIATION.

JOHN J. GARLAND, Madison.

Experiment Association Inspector and Assistant to the Secretary.

Mr. President and members of the Experiment Association:—

The subject assigned me was, "The Necessity of Thorough Preparation of Pure Bred Seed Grains" but I think that something along the line of a report of the inspection work for the first year will cover the subject, and be of more interest. I know every member of the Association is vitally interested in this new venture of the Association's and is anxiously waiting to see how it turns out.

Looking back over the past reports of our Association I have read in many of them some reference or plan for an inspection of the member's grains. Every one will agree that some sort of an inspection is necessary to maintain the reputation not only of the Association, but of the state as a seed grain producer. The growing of seed grains by the members and the selling of them has now increased to such a mammoth proportion, that it has brought before the Association a rather large problem to solve.

There have been committees appointed and resolutions adopted but not until last year was anything definitely done towards starting the work. One thing, however, which has been hampering the adoption of a system of inspection was the lack of funds to finance the work. The increase of the Association's appropriation last year was the means of putting into working order the inspection so long desired.

The first year's work must necessarily be of an initiative order, for the inspector has had to start without any past experience or examples on which to rely. So there have been many things which will be otherwise in the future, when the inspection is better understood both by the grower and the inspector.

The system of inspection that was carried out was what has been recommended by the committees and which is a modification of the system used by the Canadian Grain Association. Under the Canadian system the inspector visits the farms while the grains are growing and examines the fields for weeds and

mixture of varieties. After the grains are threshed, cleaned, and bagged, the inspector again visits the farms and examines the grains just the way they will be put on the market. If the inspector finds the grains free from noxious weeds or large amounts of the more common ones, and the grain true to type, he seals up the sack with their special seal, which is not to be broken until the grain reaches the final purchaser or planter. In our Association it would be impractical to adopt entirely their system the first year, for our farming conditions are much different.

Last year our inspection work was started too late to inspect the grains while growing in the fields, so it was decided to make the first examination of the grains after threshing time. One uncertain feature about starting out on the inspection was the lateness at which many of the growers threshed; thus holding back the work until a large majority had their grain in the bins.

Letters were sent out last fall to members of the Association, explaining the inspection as planned, and asking for all those who desired to have the inspection of their grains to fill out an enclosed blank and return it to the office. About one hundred and fifty in all wrote asking to have the inspector visit their farms and examine their grains, which was certainly encouraging when one considers the rather limited number who have large amounts of grain to sell as seed. Several waited so long before asking for the inspection that it was impossible to accommodate them at that late date.

The inspection was not started until the last of October, in order that the seed corn would be gathered and it could be examined along with the other grains; for when the inspector can inspect only on an average two to three farms a day, owing to the distances between the members, only one visit could be made to a farm, or one trip to any certain region of the state.

Before the inspector was to visit the farm, the grower was to clean and grade a bushel or two of his grain, so the inspector could tell how it was going to look when ready to sell. For, in the case of most of our growers, they leave the cleaning and grading of the grain until time for selling or during the late winter when not so busy.

The actual plan of the inspection work was for the inspector to visit the farms and examine the grains as found there, keeping in mind the following points that are necessary to be con-

sidered in seed grains: mixture of seed; mustiness; or odor; smut, or when last treated; size and quality of kernel; freedom from weeds; dirt; injury from threshing; indication of sprouting; moulding; bin burning; trueness to name and type; and yielding power.

The color of the barley or oats is a good index as to how it has been stored, both before and after threshing. If the grain was heated in the bin or stack the color of the berry will range from a yellow to dark brown. This last year many thousands of bushels of grain were rendered unfit for seed by reason of its heating, which injures the germination. One bin examined did not appear to be badly hurt, but on testing, it gave a germination of only thirty per cent. Wherever indications of heating or musitiness could be detected the grain was not accepted by the Association.

The color of the grain will often be one of the best advertisements the grower can have in the selling of it. Every buyer wants as bright, clean looking seed grain as possible, and so growers cannot be too careful in keeping their grain of good color. A bright, natural color will sell it quicker than any other thing. If the grain can be threshed from the barn or from well made stacks the color will be generally better. If the grower has to thresh from the shock, and time will permit, the cap bundles can be gathered up and threshed separately, the grain as a whole will be of much better color. Only a few discolored, gray or dirty kernels in a sample will lower the selling quality even if the germinating ability is uninjured. Keep your grain bright and you will have the least trouble in disposing of it.

Care was taken to see if any noxious weeks were in the grains or if there were common kinds to any extent. The members of the association are fully aware of the undesirability of weeds on their farms, so there was little grain rejected on account of weed seeds. There are several of the noxious weeds found on some of the farms which should be eliminated before they gain too strong a foothold. One of the noxious weeds found is the wild oat, which is easily recognized by the sucker mouth surrounded by heavy hairs and the strong, twisted awn on the back of the kernel. It is generally of a darker color than the other oats. In this state the wild oats are not the pest that they are in some of the adjoining states, but in certain places they are too common and are a detriment to the farm. At most of the

farms where wild oats were found, the owner was not aware of their existence and was very much surprised to find his grain contaminated. There was only an instance or two where quack grass was found in the grain, but many owners were aware of its being on their farm. No grain containing quack grass should be accepted, for although it might be removed by running through a good fanning mill and using plenty of air, yet there is danger of the seed getting through and being sold with the grain. Freedom from weed seeds is probably of most importance in growing seed grains, and if a lasting reputation for good seed grains is to be made, it necessitates the selling of only clean pure seed.

Quite a few growers do not regard the mixing of the different varieties or kinds of grains with perhaps as much concern as they should. For at several places the oats were so badly mixed with the barley that the growers were advised to use the grain for feed, and next year get a clean start with some grain free from the mixing and try to keep it so. The grains are perhaps mixed by the feeding of unground oats to the work horses during the time the fields are being plowed, cultivated, and seeded.

Farmers are generally rather doubtful about buying seed from another farmer with whom they are not acquainted, for they have often had cause for being disappointed in what has been sent them. Then, too, the idea of buying from another grower is rather new in itself, for the custom has been to deal more with seed companies or dealers, when getting a start with new grains. The buyers have had more confidence in getting good seed from a company than from another farmer. The seed companies have the machinery to clean the grain and generally handle only bright plump seed. The seed companies are in the business to stay and they realize that if they do not send out satisfactory seed they will lose their customers. It is profitable for the company to keep a customer from year to year, so they take pains to retain him. The expense of securing a new customer is great, with the cost of advertising as high as it now is, and if a customer can be kept from year to year, the seed man is saved the expense of advertising for another customer to take his place. And so the farmer seedsman should make it a rule that every man he sells grain to shall become a satisfied customer, who will have confidence in the grower and buy his grain from him year after year, and recommend him to his neighbors.

The weight per bushel is also taken with a Winchester measure by the inspector; for if the grain is found to be too light in weight it can be graded until more of the light, chaffy kernels are removed. All the seed grain sold should be fairly uniform in size and plumpness. It looks well to the buyer and makes him more than satisfied that he is getting a good quality of grain. Not more than fifty per cent of the small grain grown on a farm should be sold as seed, and this amount should represent what is left after all the grain has gone through the fanning mill. Nearly every member needs a certain amount of feed for his stock and by selling only the heavy, plump grain, and feeding the lighter stuff, he is enabled to dispose of his grain to the best advantage.

All the grain grown by members of the Association should be free from smut; for one of the worst kicks that can come against the Association is to have buyers say that their fields were full of smut. They buy our pure bred seeds expecting them to be free from this disease, whether it was mentioned or not, so pains should be taken to treat the grains every few years. Even if a few heads only are found smutted, the grain should be treated, for from each small diseased kernel there will be millions of these tiny dustlike spores scattered over the field. Next year there will be a larger percentage of the heads injured if these smut spores are not killed by the formalin treatment. Even if the neighbors' fields are smutty, there will be a contamination of your grain. Each grower should be able to guarantee his grains to be practically free from smut, so there will be no cause for complaint against the Association.

Regarding the inspection of seed corn in the early fall soon after it is picked, only a general idea of what has been selected can be obtained, and how well it is to be cured. Most of the growers select a large amount of seed out of the field at picking time, expecting later in the winter to go over the ears and throw out the undesirable ones that were taken in during the fall rush. The corn at this early stage is soft, for the curing has hardly begun, yet one can get a fair idea of how the curing and storage system is going to work. For in the early curing there is so much moist air given off from the ears that if the ventilation is not adequate, mould will be found on the ears and it is nearly certain that a large percentage will become rotten and unfit for seed.

One common mistake in the preparing of seed corn is the desire to save more than can be conveniently and properly handled. This necessitates the crowding together of the ears, thus preventing a free circulation of air, which is so necessary for their proper curing. A closer selection should be made in the fall and not so much poor stuff placed among the good. The good type seed ears will mould and spoil just as easily as the poor, undesirable type of ears, when all are crowded together in a poorly ventilated curing room. The grower thus has a loss of his desirable ears that should be saved when the poor corn is discarded.

A month or six weeks after selecting, the seed corn should show up well if the moisture has been sufficiently removed from the ears. And as cold weather has generally come on by this time it should be dry enough or be kept drying so no injury will result from freezing.

While out on an inspection trip, the inspector thought it a good plan to test out the difference in amounts of moisture held in ears that were cured in one case by artificial heat and by no heat at all. Two representative ears were secured from different growers, and taken to Madison to be tested. The ears were first cut into several pieces, then weighed. After drying both lots of ears for three days in an electric oven at a temperature of about 100° or more driving out all moisture, the ears which had been cured by artificial heat were found to have had in them 7.77% and 8.42% moisture, respectively, while the ears which were dried in the attic of a granery, where there was a good circulation of air were found to have had 13.5% and 14% of moisture respectively. A moisture content of nine to ten per cent has been held as the largest amount that can safely be left in corn without any danger from frost. This usually necessitates artificial heat being used in the curing of the seed corn.

Many inexperienced growers are apt to take a chance on husking the seed too late from the field if they have been rather busy, even after a cold snap has come. Some of the growers find, however, that if it cannot be picked early as they like, they will not cut and shock, but leave standing. This gives the ears a better chance to dry out, and if cold weather comes the ears may not be injured. However, when corn has been left out in the field after the regular time for selection has passed, it should not be taken in and mixed with the first, or early selected, but kept separate in the corn curing room. It can then be tested along

with the other, and if it shows a weak or poor germination, under no consideration should it be sold for seed corn.

Artificial heat is necessary for the proper curing of seed corn in Wisconsin for the moisture cannot be removed fast enough by natural means before cold weather comes. Removing the excess moisture from the ear seems to conserve the vitality and the the kernels have a stronger germinating ability next spring.

In several places the inspector was surprised to find that the corn was badly mixed and so could not be recommended. Some of the younger growers do not realize how easy it is for two different varieties to mix when they are planted close together. If they knew how unsatisfactory to the purchaser was mixed corn when he supposedly bought a pure strain, they would take more pains to prevent its crossing and so sell nothing that had any mixture. It hurts the association as a whole to have this impure seed sold, for we are advertising our corn far and wide as a pure bred variety, and if it is mixed it reflects upon the integrity of the Experiment Association. White cobs found among our yellow varieties and red cobs in the Wisconsin No. 7 indicate that there has been a mixture. So care must be taken never to plant or sell corn which has an off-colored cob in it.

A few growers have been selecting a type of seed corn that varies considerably from the standard types that have been adopted for the state. These growers will create dozens of different types which soon become distinct varieties if they continue in the way they have been going. If a farmer wishes to develop a type he thinks suits his own particular conditions or fancy, he is perfectly justified in doing it, because he should and ought to grow what does best on his farm. But for a grower who aims to raise seed corn in rather large amounts, sell the same under the name of the Association, and be advertised and recommended by the Experiment Association as a grower of our standard varieties, it hardly seems consistent for him to sell a type that varies so extremely from the standard variety. For example, if a member tries to change the Wisconsin No. 7 from a rough-dented, large-eared corn to a short-eared and very smooth type, he is doing not only himself but the Association an injury. He should aim to stand by the type which has been recognized as being adopted to a wider range of farming conditions than on his own farm.

One of the prime objects of the Association was to eliminate

some hundreds of different odd varieties that were scattered throughout our state and confine the attention and improvement to only a few really good strains of corn. Any organization loses force and strength when the members start to pull this way and that. Our annual show and exhibit of seed grains is valuable because it gives members a chance to compare their grain with the others and see if they are slipping back or getting too far ahead in their selections. The exhibit acts as a balance wheel and keeps the work and improvements of our grains steady and consistent. When a grower does not exhibit, how can he tell whether he is following in the right track or not? It is necessary to have a sample of your type alongside the others to make it clear and plain that there is a difference between them.

The great fruit markets for the western apple have been built up because the buyers were sure of getting a good quality of fruit that was uniform and of the same grade no matter if it came from half a dozen different orchards. From now on this Association must look to other states for its markets and if we are shipping out half a dozen different types of corn all under the same name and label there is bound to be trouble and dissatisfaction for the Association, and its reputation will be injured. Practically every grower whose grains diverged from the standard type has been unconscious of the extent to which he has gone. He has not given much or any thought to the matter and how his action will affect the good of the Association, which is in reality his own good.

Part of the inspection was the taking of a representative sample of the small grains which is to be kept on file at the office in Madison. By doing this, the Association can keep a check on the grains that are sold and in case any dispute arises over the character of the grains sent out, a comparison can be made with the sample at our office. It also may happen that a prospective buyer comes to the office and desires to see some of the grains offered for sale. With the samples of each man's grain at hand, the party can be shown what the different growers have and thus without the loss of time select the grower from whom he wants seed. For this reason it is essential that the growers have a small lot of their grains cleaned and graded when the inspector visits their farms, so that a cleaned sample can be taken to be preserved at our office.

The total number of farms that were inspected was 151. When-

ever the inspector had the opportunity of visiting the members' farms and looking at their grain he did so, not in order to criticise but to give any suggestions that might be helpful.

The inspection work was done not only by the regular inspector, but by several members of the faculty of the Agronomy Department, and some of the secretaries of the County Orders. Whenever it was found that someone else could conveniently make the inspection, they were given the necessary blanks and instructions, and so examined the grains. There is some little doubt, however, about whether or not a secretary of a county order who is a farmer and seed grower himself can do the inspection work in as unprejudiced a way as some disinterested party from outside the county. The inspector should be impartial in his judgment, and should any of the grains fall below the standard, he must not hesitate to forbid their being sold as seed grains. An inspector who is a farmer will be apt to hesitate about condemning his neighbor's seed grain, especially if his neighbor is rather certain about its being all right. And so he might pass grain that should not have the Association's recommendation on it.

The inspector does not want to condemn anyone, for he has never heard the least complaint about any of the inspection work which the others have done. But perhaps it is well to call the Association's attention to the matter and we can then have the opinions of some of our members on this rather perplexing question.

Out of the seventy-two lots of barley examined personally by the inspector, five lots did not receive a recommendation, chiefly because the grain was musty, light, and shrivelled or smutty. Out of the eighty bins of oats examined, eleven were rejected because of either wild oats, bin burning, or mustiness. Seven lots of Wis. No. 12 corn out of the forty-five examined were not passed, as was five lots of Wis. No. 7 out of the thirty-five inspected. The trouble with the corn in many cases was a bad mixing between varieties, a too poor quality of ears selected, or too badly injured by moulding while curing.

As a whole, there was a fine spirit of coöperation shown among the members and an evidence of their desire to do only the right thing. Many insisted on having the inspector criticize their grains to the fullest extent, and were more than willing to refrain from selling anything about which there was any doubt of

its quality. This certainly looks well for the future welfare of the Association, and there is little doubt about its reputation being maintained if all the members take this stand.

The inspector considers himself very fortunate to have been selected for beginning this inspection work and trusts that any mistakes he has made will be considered as accidents, or through ignorance. For he has entered the work with an unprejudiced and open mind, and has tried to judge each man's grain purely upon its own merits. If there are any of the members who have any suggestions upon any phases of the inspection work as it has been done this past year, the inspector would be more than pleased to have you write him.

There were great things predicted for the Association when it was organized. It has fulfilled every prediction, and there is no reason why it cannot keep on with this good work of aiding and promoting the best agricultural interests of our state, if the members will stand by the Experiment Association in the future as they have done in the past.

REPORT OF INSPECTION WORK FOR 1913–1914.

Number of farms inspected by the different inspectors:

T. H. Campion, Onalaska	11
Noyes Raessler, Beloit	5
W. A. Toole, Baraboo	1
D. S. Bullock, Marinette	2
J. A. James, Rochester	1
Prof. R. A. Moore, Madison	1
Prof. B. D. Leith, Madison	5
Prof. H. Lunz, Madison	1
Prof. L. F. Graber, Madison	1
John J. Garland, Madison	132
Total farms visited	151

The results of the inspection were:

72 lots barley inspected, 6 rejected.
45 lots No. 12 corn inspected, 7 rejected.
35 lots No. 7 corn inspected, 5 rejected.
7 lots No. 8 corn inspected, 1 rejected.
5 lots No. 11 corn inspected.
3 lots No. 1 corn inspected.
2 lots No. 13 corn inspected.
80 lots oats inspected, 15 rejected.
9 lots wheat inspected.
21 lots clover inspected.
2 lots timothy inspected.

For the second list, which consisted of grains not inspected at the farms, the following grains were listed:

20 lots barley, samples sent to office.
57 lots barley, no samples sent in.

48 lots oats, samples sent to office.
73 lots oats, no samples sent in.
38 lots rye, samples sent to office.
24 lots rye, no samples sent in.
80 lots No. 12 corn.
57 lots No. 7 corn.
13 lots No. 8 corn.
2 lots No. 1 corn.
10 lots wheat, samples sent to office.
5 lots wheat, no samples sent to office.
38 lots clover.
13 lots timothy.
7 lots soy beans.

THE FARM CONTEST—ITS MEANING AND RESULTS.

Prof. D. H. Otis, Madison.

Editor's Note—
The Experiment Association has been coöperating very closely with the Farm Management contests which were organized last year, and I take pleasure in calling your attention to this report of the first year's results. Many members of our Association have taken part in this contest and I cannot urge too strongly that as many as possible take advantage of this opportunity to study their farms.

Success in farming is the result, not only of growing the best grains, and breeding and feeding, and handling the best live stock, or the production of the best fruit, etc., but it is also dependent upon how the manager integrates, organizes, and manages his farm work so as to make the entire farm show the best results.

Our work in farm management shows great variations in the net income obtained on different farms. These variations are being studied with a view of discovering the factors that contribute either to success or failure. We believe the time is ripe to give some attention to the successful management of farms, and to recognize the men who have both the knowledge and the skill to organize and conduct their farms so as to make them financially successful and at the same time contribute to the health, happiness, and uplift of those who live on the farm.

To this end we inaugurated a farm contest in which recognition is given for fertility, home life, health of herd, and general appearance, as well as managerial income.

For encouragement in this work, we are indebted to Ex-Governor Hoard, of Hoard's Dairyman, for his liberal offer of $300 an-

nually to be used as prizes and to be awarded to the farms that score the highest, all points considered.

One of the important features of this work is the bringing of farmers face to face with the business conditions existing on their farms during the year. We realize of course that conditions may exist that make it impossible for a good farm to pay out each year, and for this reason we hope to continue this work until we shall have several years' records to study, and we hope that sufficient encouragement may be given the work that we will enlarge the contest and have a three, five, and even a ten year contest.

The Farm Contest takes into consideration the exercise of executive and managerial ability. In the contest the farmer is expected to keep account of his income and expenses. We gather data as to the capital and its distribution, and, after charging five per cent interest on the investment as an item of expense, we are able to determine the net profits.

The farm is scored according to the following score card.

Managerial Income	50
Maintenance of Fertility	20
Home Life	20
Health of Herd	5
General Appearance	5
	100

SOME OF THE RESULTS.

150 farms have competed in this contest during the past year. We have the data of these farms showing the capital invested and its distribution; the receipts and the factors contributing thereto; the expenses and their distribution, which enables us to figure the net results obtained on the farm. We have conducted contests in the following counties: Barron, Dunn, Eau Claire, Fond du Lac, Green, Jefferson, La Crosse, Rock, Sauk, Waukesha, and Winnebago.

In each of these counties we have held a local meeting in which we have shown those in attendance the average results obtained in the county and the state, and each farmer in the contest has been given a statement of the results obtained on his farm and along with this statement is a comparison showing the average results of the county, the average of the state, the best ten and the poorest ten. In this way each farmer in the contest

has been brought face to face with the conditions upon his farm, and he as been able to see what are his strong points and his weak points.

In considering the results and the difference that exist between farms and the reasons therefor, we have listed thirty-three factors contributing toward the results. We have found that some factors which we had assumed were very important were really of minor consideration, and other factors upon which we laid comparatively little stress we have found to be rather important factors. The principles at the bottom of this work and upon which success seems to be dependent may be brought out by the discussion of three groups of farms which may be considered as representatives of different classes of farms and methods of farming comprising the farm contest. These farms we have labeled "Above the Average", "The Average", and "Below the Average". For reasons that are not pertinent at this time, we have not included all of the farms that have shown the highest managerial income in the group "Above the Average", but the group does contain the farms that have won out in the farm contest.

The group "Below the Average" contains some good farms, and the low results for this year are due to conditions for which the farmer is not entirely responsible, and we expect a number of these to make a much better if not a satisfactory showing for next year.

We realize that in sizing up the situation on the farms that conditions may exist that make it impossible for a farm to make a satisfactory showing in a given year due to peculiar or exceptional conditions. On the other hand, a farmer may be exceptionally fortunate one year and may make a showing that he cannot expect to maintain for a series of years. And in the discussion of these results these points may be borne in mind and due allowance given for them. Some of the problems apparently underlying success may be stated and discussed as follows:

SIZE OF FARM.

This is a question that is frequently raised and by a good many would seem to have an important bearing on the results. We are discussing it here, not because it seems to have a particular bearing, but in order to answer a question that is frequently raised.

From the charts presented there appears to be no indication that the results are coincident or coördinate with the size of the farm as measured in acres. We notice that on all three charts we have both large and small farms, and that the net results or managerial income is not connected with farms of any particular size. It will be interesting to know that the average size of the farms in Group I is 188 acres; in Group II, 170 acres; and in Group III, 185 acres. Practically the same relative condition exists in regard to the acres in crops.

It will also be interesting to know that a similar condition has existed in all the county contests except one and that apparently the number of acres between certain extremes either way has very little to do with the managerial income.

TOTAL CAPITAL.

Total capital undoubtedly has something to do with the results on farms. We find that in the first group the average total capital amounts to $34,494. In Group II (the average) it amounts to $21,825, while in Group III ((below average) the total capital amounts to $25,091. This would indicate that the total capital has but little influence between the average and the poorest farms, but apparently it does have some if not considerable influence with the better farms, as there is nearly $10,000 increase in this group over that of Group III.

OPERATING CAPITAL.

Operating capital on the farm is a variable quantity and is subject to more frequent and sudden variations than is the fixed capital. Undoubtedly the amount and judicious use of operating capital has an important and direct bearing upon the financial success of the farm. It is therefore, important to know not only the amount but what relation if any, the operating capital bears to the fixed capital and to what extent it influences the managerial income.

In Group I we find the operating capital amounts to $9,825; in Group II $4,950; and in Group III $5,474. Here we find a somewhat similar relation to that found in total capital, but the differences are perhaps more striking.

The per cent of operating capital to total capital in Group 1 is 27.2; in Group II it is 22.6; and in Group III it is 21.8. It

is significant that on practically all the farms that we have studied we have found that those farms that make the best success have from 25 to 35 per cent or above of operating capital, and in those farms where the operating capital falls below 15 to 20 per cent usually you can count on poor results.

On the farm before us, we find that the per cent of operating capital in group III is almost as much as in Group II, but there is 5 to 6 per cent more operating capital in Group I than in the other groups. My studies lead me to believe that the per cent of operating capital is more closely connected with the financial results on the farm than any other factor connected with the capitalization of the farm.

It is important and interesting to study the factors which constitute the operating capital, and, if possible, discover the relative value of these factors. The following table throws some light on this situation.

Distribu'ion of operat'ng capital.	Group I.		Group II.		Group III.	
	Amount.	Per cent	Amount.	Per cent.	Amount.	Per cent.
Machinery and equipment	$1,380.35	14.7	902.95	18.4	920.41	16.9
Horses	1.334.00	14.2	1.638.00	33.3	1.222.50	22.3
Cattle	6,104.70	65.4	1.895.10	38.6	2.404.70	43.9
Swine	280.50	3.	191.90	3.8	402.32	7.3
Poultry	43.65	.4	37.98	.7	51.37	.09
Other live stock	6.10	.06	52.80	1.7	351.70	6.4
Cash reserve	187.50	2.	186.	3.07	120.50	2.2
Total operating capital	9,337.10	.....	4.904.73	.....	5.473.50	.....
Managerial income	3,820.75	.....	1.294.64	.....	—716.55	.....

CROPS.

As indicated above, the number of acres seems to have little to do with the net results. It is interesting, however, to notice that the results from crops vary considerably in the different groups.

In Group I, the sales and increased inventory amount to $1,762 or 21.9 per cent of the total income of the farm. In Group II, to $975 or 26.3 per cent of the total income, and in Group III, to $564 or 24.6 per cent. It is also interesting to note in this connection that the yield of barley in Group I, is 31 bushels per acre. Group II, 23 bushels per acre, and in Group III, 19 bushels per acre.

The yield of corn for Group I, is 59 bushels, Group II, 52 bushels, and Group III, 41 bushels.

The yield of oats for Group I, is 48 bushels, Group II, 43 bushels, Group III, 46 bushels.

It will be noticed that the largest receipts from sales and increased inventory seems to be coincident with the managerial income of the various crops, although the difference in yields per acre between these are not as great as one might naturally expect.

Apparently there is little or no relation between the managerial income and the yields of hay and silage per acre. With alfalfa, Group I, has 19 acres per farm that yield 3.2 tons per acre; Group II, 15 acres per farm that yield 2.5 tons per acre; Group III, has 4 acres per farm that yield 3.75 tons per acre. While the yields in the alfalfa are not coördinate with the managerial income, the number of acres per farm seems to be. With other hay crops and with silage there seems to be no relation either between the number of acres and the yield per acre.

LIVE STOCK.

The number of horses on the farm in all the groups ranges from 5 to 6 horses per farm, and no relation seems to exist between the number of horses and the managerial income. There seems to be, however, a relation between the efficient management of the horse equipment and the net results as is shown by the fact that in Group I, the receipts per horse, which included both sales and increased inventory, amount to $18; for Group II, $7.70; and for Group III, $3.80.

It is significant to note that the number of cows seems to have an intimate and direct bearing upon the net results of the farm. In Group I, we have an average of 28.4 cows per farm; in Group II, an average of 17.6 per farm, and in Group III, an average of 11.6 cows per farm. Comparing the number of cows with the managerial income, there seems to be a very close connection.

Not only is there a close connection between the number of cows but along with it are the interesting results of receipts from the sale of live stock and live stock products. In Group I, the receipts from the sale of live stock amount to $3,329 or 41.4 per cent of the total receipts for the farm. In Group II, to $1,291 or 34.9 of the total receipts for the farm. And in Group III, to $3,085 or 47.4 per cent of the total receipts.

The receipts from live stock products which are milk and cream, in Group I, amount to $2,761 or 34.3 per cent of the total receipts. In Group II, they amount to $1,214 or 32.8 per cent of the total receipts, and in Group III, $598 or 26.1 per cent. Not only does the total income from live stock show up, but the income from milk and cream per cow. In Group I, this amounts to $91, in Group II, to $66, and in Group III, to only $42. In like manner the receipts per cow from the sale of live stock in Group I, amount to $87 per cow, in Group II, $42, and in Group III, $32. The number, the income from milk and cream per cow, and the income from the sale of live stock per cow, all indicate that the three factors are intimately connected with the net results on the farm.

TOTAL RECEIPTS.

The volume of business as expressed by the total receipts seems to have a close connection with the managerial income. We find that in Group I, the total receipts amount to $8,034, in Group II, $3,696, and in Group III, $2,288.

The above factors seem, from our study in this contest, to be the leading factors in the results on Wisconsin farms which, of course, are largely dairy farms. Other factors such as the number of ewes, the number of sows, the average number of men kept, miscellaneous receipts, receipts per ewe, per sow, crop acres per man, animal units per man, crop acres per horse, do not, from the results that we have obtained on the farms this past year, seem to be connected to any large extent with the net results of the farm.

We feel, however, that this study is only a tentative one and that further study extended through a longer period of years may throw greater light upon our problem.

I wish to state in this connection that the farm contest during the past year in Wisconsin has been made possible through the hearty coöperation and good will of the farmers entering it. I wish to commend in a hearty manner the most excellent spirit and coöperation that we have received in our work and study of these problems. I hope it will be the means of forming a close link between the farmers and the college. I am sure that as far as we are concerned it has put us in closer sympathetic touch with the farmers and the farm community. We have a clearer con-

ception of the farmers' needs and the difficulties that he has in so organizing his work as to make everything work out satisfactorily. On the other hand, we believe that it has been beneficial to the farmers in opening up their eyes to some of the problems they have upon their own farms. They have been led to feel the need of applying business methods upon their farms and many of them have requested us to furnish them with some method of keeping farm accounts so that they can know what they are doing; and farmers have told us that next year they expect to keep closer account and that they are going to study their business and believe that they can make a better showing next year than during the past year. It is this spirit of coöperation that makes us feel encouraged in taking hold of this work and pushing it. We believe it has a great future before it.

At the close of Prof. Otis' talk, Ex-Gov. Hoard in a brief address told of the rapid advancement made along agricultural lines in Wisconsin. He then awarded the $300 cash prizes which Hoard's Dairyman had offered to the contestants as follows:

1st prize $100.00, Wm. M. Jones, Waukesha.

2nd prize $50.00, M. L. Welles, Rosendale,

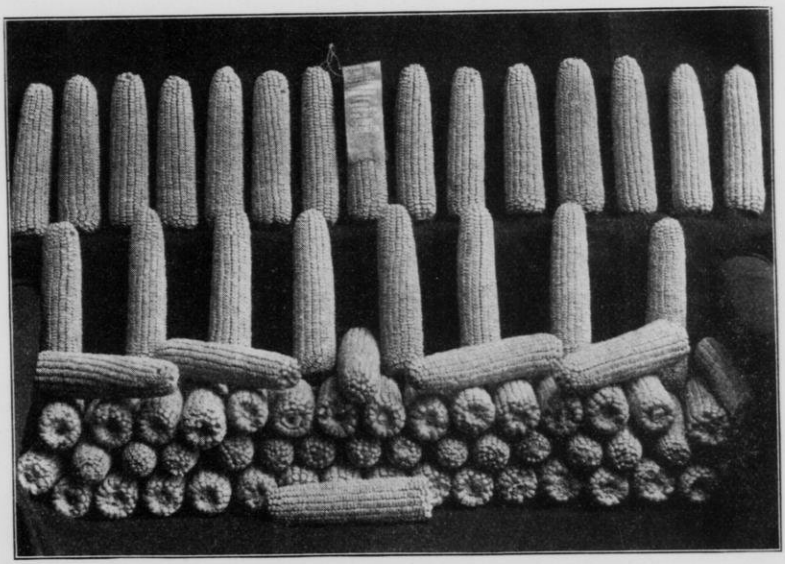
Next six prizes of $25.00 each to W. F. Miller, West Salem, Baird Bros., Waukesha, Vonder Ohe Bros., West Salem, Dallas E. Davis, Monroe, Henry Anthes, Jefferson and Wm. Bartlett, Barron.

THE SEED GRAIN GROWERS LISTS.

Quite a few years ago it was the custom for the Experiment Association to have a list of the members having seed grains for sale printed in the annual report. But this was found to be unsatisfactory owing to the increased demand for the Pure Bred Seeds which necessitated the sending a copy of our report to every one desiring a list of growers.

For the past few years this list has been printed separately, and has thus been more easily distributed at a considerable saving to the Association. This last year's seed growers list was later than usual in being printed, for it was necessary to finish the seed grain inspection and get all the names on the list. In

Prize winning 50 ear lot of Wisconsin No. 12 corn exhibited at Association's Pure Bred Grain Show by Jippa Wielinga, Midway; purchased for corn breeding plot by J. P. Bonzelet, Eden.



Prize winning 50 ear lot of Wisconsin No. 7 corn exhibited at Association's Pure Bred Grain Show by S. P. Markle, La Crosse; purchased for corn breeding plot by J. P. Bonzelet, Eden.

the previous lists, there has been no distinction made between the grain offered for sale. But this year we have had grains to list which have been personally inspected by a representative of the Association at the members' farms, grains, a representative sample of which was sent this office for examination, and grains that have never been seen.

Last fall a request was made for all those having seed grains to sell either to have the inspector visit their farms or else send a quart sample of the grain to the Experiment Association office. It is hardly fair for the association to advertise grains that are perhaps unfit for seed; and unless the grain has been passed on by some officers of the association there is sure to be many lots of grain offered for seed that should go for feed. And it is unfair to the careful grower to list his good seed grain along with that which perhaps is bad. Still a great many did not send in the samples so their grains had to be listed as uninspected, unexamined, and unrecommended.

The seed growers lists were not mailed to all the members of the Association for it was thought to be more important to get them into the hands of parties who might buy grains and were not acquainted with the Association. However, a copy was sent all those whose names appeared on the list as having grains to sell so they could refer inquiries to some one else in case they were sold out. This is an important thing, for it often happens that one man is able to dispose of his grain quicker than another, and if he fails to answer the other inquiries he receives, there is apt to be many sales of grains lost to the Association.

It is also a business courtesy to answer all the letters and inform the writer that your seed grains have been sold. It may be the means of having him write you another year when he is on the market for seed. Also it is most friendly and coöperative to direct the inquirer to other members who have grain for sale. There are, no doubt, thousands of dollars lost to the members of the Association every year because of the failure of members to direct buyers to others not yet sold out. With our present arrangement of listing the names of growers and letting the buyers deal directly with the grower, it is impossible for any one to know just who has or has not seed yet to sell. If the orders all came through the Secretary of the Association or the Secretaries of the County Orders, then there would be no cause for any sales being lost.

This problem of marketing the seed grains, that are now being produced in larger quantities each year, is becoming a very vital question before the Association. It demands the thought and attention of every member of the Association as to how best to carry on the work. Each member should deem it part of his Association duties to make suggestions along this line or any others to the officers of the Association. This Experiment Association is not for the few but for the best interests of all. It is bound to happen, though, that the man who takes the greatest interest in some line of work and puts into it his earnest endeavors, no matter if it be politics, business, or pleasure, gets the most good from it.

SILO SERVICE, FOR WISCONSIN EXPERIMENT ASSOCIATION.

Prof. F. M. White, Madison.

Eight years ago there were approximately 750 silos in Wisconsin. It is not known how many silos there are in this state at present, but their increase in number has been wonderful. Notwithstanding the rapid spread of silo construction, I do not believe that a silo can be found on one-fourth of the farms in this state, and there are about 177,000.

There are very few who question the need of silos, and every mail brings inquiries to us with regard to the desirability of the various types.

Perhaps there is the question, in the mind of this association, as to the kind of silo that will meet with its requirements. The essential points to bear in mind when selecting a silo are the following:—

1. The silo must be air-tight.
2. It must be perpendicular from top to bottom.
3. It must be free from corners and projections. A round silo is, therefore, the best type.
4. The doors must be tight fitting and close together so that a minimum amount of silage will have to be removed before the door can be opened. A continuous door is, therefore, desirable.
5. The silo should be rigid; able to withstand strong winds and

different moisture conditions which may be due to the silage, or to the action of the weather.

6. The silo should be constructed of a material sufficiently non-conducting to prevent excessive freezing.

There are many materials which have part, or perhaps all, of these requirements. It is hard to state the best material that can be used for silo construction under all conditions. The solid wall concrete silo embraces most of the above essentials, and offers advantages to many of the members of this association. If you are going to have good buildings and well equipped grounds, you must learn to use concrete. Many farmers in this state have already availed themselves of the use of the forms, used in making concrete silos, that are placed at their disposal by the College of Agriculture.

The coöperative methods of handling farm products, which are being developed so rapidly, may be applied to your building construction also. You can club together and secure the use of a set of forms which your Experiment Association has placed at your disposal. By coöperating with your neighbors, you can save the contractor's profit and secure a permanent type of silo at a cost less than that of a cheap, temporary, unstable affair.

You now have a special opportunity to secure a form from your society at a very nominal price. The charge of $30.00 in parties of three, as shown on the application blank, will cover the cost of freight charges and the expense of sending a man to assist in starting the first silo. If the sand and stone are easily secured and only short hauls are necessary, you can build a silo for an actual money outlay of from $100.00 to $150.00. Including the cost of labor, the average cost of silos in this state for the past year was approximately $350.00. If you desire to use these forms, you should secure an application blank from the Agricultural Engineering Department. There is such a demand for these forms that, in case you desire one for your silos this coming year, you should make your application at once.

The use of the silo form is limited to members of the Wisconsin Experiment Association and members of a County order of the Wisconsin Experiment Association and may be secured by filling out a blank secured from the Agricultural Engineering Department which reads as follows:—

APPLICATION

to the

WISCONSIN AGRICULTURE EXPERIMENT ASSOCIATION.

for

SILO FORMS AND ASSISTANCE

———————Wis. ————19

Gentlemen:

We, the undersigned, members of the Wisconsin Experiment Association or of a County order of the Wisconsin Experiment Association, town of ———— County of ———— do hereby make application for the use of the Wisconsin Experiment Association silo form, and assistance to instruct in the method of handling the form on the first silo. We desire to erect a 14 foot concrete silo.

It is understood that charges for the use of the silo forms according to the prices herein stated, are to accompany the application, unless arranged for before forms are shipped to the applicant, the remittance being made by money order, express order, or bank draft.

CARE OF FORM. In order to secure the best finish on a silo wall, it is necessary to keep the form free from concrete. The form will have to be oiled from time to time with a cheap oil or soap solution in order to prevent the concrete sticking to the form. We agree to return the form as free from concrete as received. After the silo is finished, we agree to return the form promptly to the railroad station, tagged and ready for shipment.

CHARGES. The charges for the silo forms are to be at the rate of $10.00 per silo where three silos are built; $9.00 for four silos; $8.00 for five silos; and $7.00 for six silos. We desire to have as many farmers secure the use of the silo forms as possible, and we, therefore, limit the time which these forms may be used for each silo at the above rate to 21 working days. For every day the form is used over the 21 days, the applicant agrees to pay the Wisconsin Experiment Association twenty-five cents.

It is desired to start construction work not later than———— ————. If not possible to secure the forms at this date ————————.

Remarks:

Signed Name Address

1. _____

2. _____

3. _____

4. _____

Address inquiries to F. M. White, Agricultural Engineering Department, University of Wisconsin.

PLAN FOR EXTERMINATION OF FARM WEEDS.

PROF. A. L. STONE, Madison.

Every citizen is vitally interested, either directly or indirectly in the subject of weed eradication. The farmer is interested because the worse his farm is infested the less he can produce upon it or else the cost of production is increased. In either case the farm fails of its maximum production and the social and educational opportunities of himself and his family are curtailed accordingly.

The business men of the community are interested because a majority of them prosper in proportion to the farmers' prosperity. It is certain that in some sections of our state the use of one quarter of the land is lost because of such weeds as quack grass, Canada thistle, and wild mustard. The farmers themselves say so, and the data I have collected confirms it.

On a 160 acre farm, all of which is under cultivation, the use of 40 acres would thus be lost. Most of this land would produce 30 bu. of barley per acre. At 60c a bushel the loss of income to the farmer from this 40 acres would amount to $720. His power to purchase supplies, for improvements on his farm, better machinery, groceries, shoes, clothing and other things, or his ability to make bank deposits is decreased by that amount. Thus every person in the community, farmer, merchant and banker, has a vital interest in the problem of weed eradication.

It is the purpose of this paper to draw attention to the seri-

ous conditions now in existence and to urge the members of this Association to coöperate with the Experiment Station and with each other for the eradication of weeds.

The weed problem is becoming such a serious one even on the newer farms in upper Wisconsin as to cause the thoughtful farmer much anxiety. The cost of cultivation of such crops as corn, sugar beets, tobacco, and potatoes is a big item in the farm expense. Add to this the harm actually done to the crop by the removal of moisture and plant food, the shading and dwarfing of the grain, the propagation of plant diseases, the extra cost of harvesting, etc., and the total loss from weed infestation is unquestionably a cause for anxiety.

In spite of the efforts of many thrifty and careful farmers the noxious weed areas of the state are spreading rapidly. What are we going to do about it?

I wish to present to you to-day an outline for an experiment on weed eradication in the carrying out of which I need the assistance of as many of the association members as can possibly see the way clear to coöperate with me. At first thought my plan may appeal to you as requiring some sacrifice but the knowledge how to successfully eradicate noxious weeds is worth some sacrifice. If, as I believe, we can determine the best methods for noxious weed eradication and can eventually rid our farms of them, there will be no sacrifice but a great profit, not only to our individual selves but to the state in which we live.

The experiment will require at least an acre of land which is badly infested with some noxious weed like quack grass, Canada thistles, or wild mustard.

I urge each one of you who can do so to carry on this experiment even at some sacrifice to yourself. You owe it to yourselves and to the state to demonstrate that noxious weeds can be eradicated.

If you cannot carry out the method as a whole, but will be interested in any one phase of it, I should be very glad to take up the matter with you. This is one of the most serious problems confronting this Association at the present time.

Pure seeds of the best quality, which can be unqualifiedly recommended, can be grown only on weed free land. The solution of this important problem will bring additional credit to this Association which declares its purpose to be the improvement of the Agricultural interests of the State.

To this end I present herewith several methods for eradicating weeds and ask every man who possibly can to kill at least a small patch of noxious weeds by the use of one of them. We can no longer afford to ignore the weed problem and I ask you to report to me any results which you may obtain in your efforts during the year. If by visiting you and advising with you I could be of any use I would be very glad to do so. But anyway *do something* this year toward solving this problem.

1. Summer Fallow.

The depth at which the horizontal rootstocks of quack grass or Canada thistles grow will depend upon whether the field in which they are growing is in grass or in cultivated crops. The roots lie closer to the surface in grass land.

Plow, at the right depth to turn the rootstocks or roots up to the surface, as soon as the crop is removed in the fall. By careful cultivation prevent all leaf growth until ground freezes.

Plow again in spring as soon as the condition of the land will permit, and once every four weeks during the season. Cultivate at least once a week between plowing times and oftener if weeds are growing rapidly. The object is to bring all the roots to the surface where sun and wind will kill them.

Plants breathe through their leaves. If you keep the leaves from growing you smother or kill the plants, so cultivate often enough so that no leaves ever show above ground.

Apply 10 loads manure per acre before last plowing in fall and plant corn in checkrows the following year after careful spring preparation of the seed bed. It is not probable that any weeds will survive the summer fallow but the corn field should be carefully watched and should any weeds appear dig them out or hoe carefully so no leaves can appear.

2. Partial Summer Fallow with Annual Smother Crops such as Millet and Buckwheat.

Proceed as above until July 1 and sow millet or buckwheat at the rate of one bushel per acre. Previous cultivation will have weakened weeds and before they recover the millet or buckwheat will so cover and shade the ground as to smother the weeds.

3. Partial Summer Fallow with Perennial Smother Crop such as Alfalfa.

Proceed as above except for addition of lime where necessary

and by heavy coating of barnyard manure before plowing. Continue cultivation until June 10. Sow alfalfa seed, alone at the rate of twenty-five pounds per acre.

4. Corn, Sugar beets, Tobacco, Potatoes.

As soon as crop is removed apply barnyard manure at rate of twenty loads per acre. Plow immediately after manuring where possible and cultivate as outlined in Summer Fallow method. Continue until planting time. Plant corn in checkrows, four kernels per hill, rows and hills three feet six inches apart. Keep clean by careful cultivation and hoeing. Plant other crops at usual time and rate and in usual manner.

The crop should be carefully cultivated and hoed if necessary to keep absolutely clean. Process may be repeated second year.

5. Small patches of weeds may be eradicated by covering the patch carefully with some heavy building paper. This should be placed over the patch after the weeds have been cut as close to the ground as possible. The strips of paper should overlap so that no weed can get up between the strips, and should also extend sufficiently far beyond the edge of the patch so that all weeds will be covered.

The scattering plants may be killed by cutting them off about two inches beneath the surface of the earth, making a funnel shaped hole around the stem and filling it with stiff salt brine or gasoline.

ALFALFA SESSION.

GIVEN UNDER AUSPICES OF THE ALFALFA ORDER OF THE EXPERIMENT ASSOCIATION.

PRESIDENT'S ADDRESS.

THE ALFALFA OUTLOOK.

JAMES B. CHEESMAN, Racine.

Every year adds enormously to the list of growers of Alfalfa and still the future is as alluring as ever. When asked, "What is the need of special propaganda for promoting a wider knowledge of this plant; and a fuller appreciation of it's great value as a stock food", the only answer is the echo of the markets. Every consumer of eggs, meat and milk knows to his cost how general is the apathy regarding the claims of Alfalfa. Why quote the figures of the market reports? Why complain of the upward trend of prices when those who are most vitally interested either act slowly, or do nothing? Up to the present, Alfalfa has not yet won a place in the permanent rotation, of any great number of farms. With few exceptions there is no general practice of either liming or inoculating. While it is true many succeed without either of these practices, it is absolutely certain, that time would be saved and valuable efforts would be capitalized, and a larger number of Alfalfa growers would be listed, if growers would profit by the experience of others. The world will never be rich enough to justify waste. Courage and leadership have never been too plentiful, and we can least afford to have disappointed and discouraged growers of Alfalfa. When the average man fails he often waits to discover how many others have shared his experience. The man who fails is seldom a safe guide to consult. When we seek the unknown we counsel with those who know and have demonstrated by experience whether a proposi-

tion is founded in fact, and warrants us in attempting to test it in our own experience. Every year our population increases rapidly; the outcry about the increasing cost of living is louder and more general; relatively the rural population does not increase and acreage is not increasing at the old rate. It therefore remains a farm problem to augment the sources of food supply with such material as we have.

Rather more than a month ago there was organized in Chicago a National Alfalfa Growers' Association. It's membership includes many of the most experienced growers of the plant in all parts of the country. Large corporate bodies like seedsmen, implement men, and railroads are among its most enthusiastic supporters. This organization will aid states in the formation of Alfalfa Growers' Clubs and diffuse information concerning its needs among all who are seeking knowledge and desire encouragement. It plans to operate through state societies, and to encourage them in the practice of the most economic methods of planting, growing, harvesting and marketing this most interesting plant.

Let us take a lesson from Kansas. One of the most pathetic and yet instructive sights of Kansas in the year 1913 was the parched up condition of it's fields, and the persistent green of the Alfalfa acres. If you can till deep enough you can increase the water storage of every farm. If the growing plants have roots burrowing into two or three times as much friable soil you may resist drought and defy failure. Deep tillage will enable every farmer to utilize the rainfall more fully, and larger areas of Alfalfa on every farm will at least help to arrest the upward bound of prices of all the animal products.

A few days ago one of the Chicago meat packers issued the annual report which announced a business of $400,000,000.00. The astounding fact that this enormous volume of business more than equalled the revenues of four of the greatest railroads of the west whose terminals are in Chicago, may well startle the student of economics. I have not before read a statement which suggests so much as this one. Here was a great firm pressed on every side by legitimate competition selling merchandise through it's nation-wide agencies on the slender margin of 2.31 per cent profit, turning over it's capital rapidly and notwithstanding the slowing down and steadying management, which resulted in large numbers of unemployed, an increased consumption of meat at higher

prices is recorded. Will some one now tell us what is the outlook for Alfalfa? I have stated nothing concerning milk because the best informed and wisest men in the business cannot know. We do know that as cow testing clubs increase and men measure more closely the earnings of dairy herds each year they discard unprofitable animals more quickly than they did before. Every manufacturer knows the cost of milk is increasing, while the number of pure bred cows and efficient grades do not increase as fast as they are needed. The duty which confronts every man interested in Alfalfa is clear. If farmers are making money without Alfalfa they can and may make more by growing this plant and adding to their feeding ration this nutritious forage crop.

The task of this organization is first to encourage those already growing the plant by showing them safer and more economic methods of working. To instruct and encourage larger numbers to plant Alfalfa, and to aid all in securing for it a permanent place in their rotations. The field is broad, the work is large and the harvests promise liberally. Let us commence first of all to initiate a practice of saving our water supplies by deeper tillage. Why assume loss; loss is inevitable because rainfalls vary, why must reverses come if God gave man dominion over all the earth? Let us believe in our soils. Let us know that intelligence plans before work, and correct practice can only result from right thinking. We believe in Alfalfa. Let us demonstrate that belief by establishing our practice on the basic principles which make for permanence and a sound agriculture.

SECRETARY'S REPORT.

L. F. Graber, Madison.

Fellow Members of the Alfalfa Order and Experiment Association:

The past year has been a prosperous one for the Alfalfa Order and I am pleased to again have this opportunity of reporting on the work and progress of our State Alfalfa Growers' Association. We began two years and four months ago with a charter membership of twenty-one with which to start this great work of promoting alfalfa growing in Wisconsin. The first year our mem-

bership increased to five hundred. To-day we have over seven hundred members in our organization, all of whom are working in coöperation for the general alfalfa interests of Wisconsin. It has been particularly gratifying to Professor Moore, Mr. Cheesman, and myself, and others who have been watching the progress of the Alfalfa Order, to observe the keen interest and willing cooperation this alfalfa movement has met with from the farmers throughout the entire state. The organization has not only grown in numbers but in its usefulness in serving its members. The scope and field of our work has broadened and developed and results of previous efforts are now being realized.

WISCONSIN FARMERS SUCCESSFUL IN GROWING ALFALFA.

This spring your secretary received two hundred and forty reports on the condition of the alfalfa fields sown the previous year, by the members with alfalfa seed secured in coöperation with the Alfalfa Order. Out of all these tests coming from all parts of the state, only ten per cent reported failures, which shows that Wisconsin farmers are fast learning to grow alfalfa very successfully.

CAUSES OF FAILURE IN GROWING ALFALFA.

Many of the above failures were, no doubt, due to a lack of inoculation as shown by the following table:

No. reporting on inoculation inquiry, 223.

No. inoculating field before seeding, 75. No. failures 4=5%

No. not inoculating field before seeding, 148. No. failures 20=14%.

Of course, it is true that inoculation is not necessary in all parts of the state, but in many places it is highly essential and particularly is this true in those sections where there is no sweet clover growing along the roadside, near the field to be seeded to alfalfa. Inoculation by spreading alfalfa or sweet clover soil over the field just prior to seeding would have prevented many failures. Soil for inoculation is sent out by the Agricultural College to those who have difficulty in securing same locally.

TOO THICK SEEDING OF NURSE CROP.

Too thick seeding of the nurse crop resulted in many poor stands and failures. When alfalfa is seeded with a grain crop

not over one bushel of barley, oats, etc., should be sown. Seeding these grains at regular rate of two to two and one-half bushels generally results in crowding out the young, tender alfalfa plants and so weakens and thins out the stand as to result in a patchy field or an entire failure.

SEEDING ALFALFA ALONE.

Greater success was obtained by seeding alfalfa alone rather than with a nurse crop, as shown by the following summary of the reports received.

No. sowing alfalfa seed with nurse crop.....133
No. of failures..... 13=10%
No. sowing alfalfa seed alone..... 99
No. of failures..... 5= 5%

However, it must be said that while seeding alfalfa alone is no doubt the surest way of securing a good stand, it is much more expensive than starting alfalfa with a nurse crop. But, to the beginner, it is often best and most economical to put the soil through a weed killing process by frequent harrowing, so that by the last of June or the first of July the field will be practically free of weed growth. The alfalfa can then be seeded alone and excellent results will obtain if the soil is not sour and is well inoculated and has good natural drainage. On hilly lands, where soil washing is apt to occur, seeding with a nurse crop is advisable. Likewise on land which is well inoculated and has previously grown successful crops of alfalfa, seeding with a nurse crop (not over one bushel per acre) will generally give a good crop of grain the first year and a good crop of alfalfa the next year.

WINTERKILLING OF WISCONSIN ALFALFA FIELDS.

Some winterkilling of old and new seedlings occurred late this spring as a result of alternate freezing and thawing. Many members reported their fields in good shape before the April freeze which caused a great deal of heaving and this, together with the formation of smothering ice sheets on flat areas, worked havoc with many stands, especially in Waukesha, Washington, Sheboygan, and other lake shore counties.

Late Cutting and Pasturing.

Late cutting and pasturing resulted in much winterkilling and thinning out of the old stands. Cutting alfalfa after September 5th, is always a dangerous practice and pasturing heavily in the fall invariably results in some winterkilling.

Other causes of winterkilling enumerated in the reports of the members are as follows:

1—Lack of inoculation.

2—Thick seeding of nurse crops.

3—Sour soils.

4—Poor drainage (flat land).

5—Late seeding (fall seeding).

These are matters which can be readily remedied and the reports coming from all parts of the state are valuable in calling our attention to the things of great importance in securing and maintaining good stands of alfalfa in Wisconsin. With only ten per cent failures out of two hundred and forty tests, the possibilities of growing alfalfa in Wisconsin appear very bright. When proper methods of culture are universally employed and such matters as inoculation, thin seeding of the nurse crop, liming, and proper conditions as to drainage are obtained and late cutting and pasturing avoided, fewer and fewer failures will result.

Eighty Tests on Thick and Thin Seeding.

Reports were received this summer from eighty members of the Alfalfa Order relative to the test planned in 1912 on the comparative merits of thick and thin seeding. Ten and twenty pound rates were compared. Results of these reports are summarized as follows:

1. Weeds cause greater trouble with ten than twenty pound rate of seeding alfalfa.
   - No. reporting greater weed growth with ten than with twenty pound rate of seeding..... 28 = 53%
   - No. reporting, vice versa ..... 1 = 2%
   - No. reporting no difference noted ..... 24 = 45%

2. Thin sown alfalfa (10 pounds) produces coarser hay
   - No. reporting ten pound rate of seeding produces coarser hay than twenty lb. rate..... 29 = 60%
   - No. reporting, vice versa ..... 1 = 2%
   - No. reporting no difference noted..... 19 = 38%

3. Ten pound rate produces slightly taller alfalfa.
   - No. reporting ten pound rate produced taller alfalfa than twenty pound rate..... 15 = 31%
   - No. reporting vica versa ..... 6 = 10%
   - No. reporting no difference noted..... 27 = 59%

4. Twenty pound rate produces thicker stand.
   - No reporting thickest stand at twenty pound rate 44 = 94%
   - No. reporting thickest stand at ten pound rate..... 0 = 0%
   - No. reporting no difference noted..... 4 = 6%

5. Twenty pound rate gives best yield.
   - No. reporting twenty pound rate gives best yield.. 25 = 57%
   - No. reporting ten pound rate gives best yield..... 1 = 3%
   - No. reporting no difference noted..... 18 = 40%

6. Twenty pound rate best where alfalfa is grown on soil for the first time.
   - No. reporting twenty pound rate of seeding alfalfa best on land not having previously grown alfalfa 43 = 75%
   - No. reporting ten pound rate under these conditions ..... 0 = 0%
   - No. reporting fifteen pound rate best under these conditions ..... 13 = 24%
   - No. reporting twenty-five to thirty pound rate best under these conditions..... 2 = 1%

7. Fifteen pound rate gives good results on well inoculated, well prepared soil free from weeds, especially where soil has previously grown alfalfa.
   - No. reporting fifteen pound rate best as per above conditions ..... 24 = 50%
   - No. reporting twenty pound rate best as per above conditions ..... 20 = 40%
   - No. reporting ten pound rate best as per above conditions ..... 7 = 10%

In conclusion these tests show that while occasionally good stands of alfalfa in Wisconsin can be secured with as little as eight to ten pound of seed per acre, especially where the seed bed is well prepared and well inoculated, this rate of seeding cannot be generally recommended. That, while theoretically with perfect seed a five pound rate of seeding will produce a thick enough stand (about twenty-six plants per square foot if every seed developed into a plant) this will not hold true practically because of the rapid thinning due to winter killing, disease, weeds, poor inoculation, imperfect seed bed, sour soil, dry weather, and numerous other woes the young alfalfa plant is often heir to; that the weed difficulty with thinly sown alfalfa, the poorer quality and smaller yield of hay obtained, make it inadvisable to sow less than ten to fifteen pounds of alfalfa seed on well prepared

and thoroughly inoculated soil and not less than fifteen to twenty pounds on new soils not having previously grown this crop.

These tests will be continued for several years to obtain further data along these lines and as to the longevity of fields sown at thick and thin rates of seeding. Two hundred more similar tests were made the spring of 1913 and these results will be available next fall (1914).

SOUTHERN VS. NORTHERN GROWN ALFALFA SEED.

Last spring one hundred and forty members were supplied with two pounds of southern grown (Oklahoma) seed to sow alongside of the northern grown seed which was shipped them by the association. In this way a comparison of the hardiness of these two strains is being made and results will be reported next summer. These experiments will be followed up this year with a large, state-wide test comparing Kansas, Nebraska, and Dakota grown alfalfa seed with that produced in Montana. I am glad to say that the members have practically all signified their willingness to conduct this valuable experiment. Of course, experiments along these lines have been and are now being conducted on the Experiment Station farm, but these results are representative of the conditions in only one locality. What is needed is a comprehensive state-wide test and the Alfalfa Order is well constituted to conduct this valuable work. The plan, in general, is to include as a part of each order for northern grown alfalfa seed ten pounds of either the Kansas, Nebraska, or Dakota seed. In this way each member will have two types of seed, produced in different sections, which he can grow side by side, and the results as to winter killing, yields, adaptability, etc., can be observed and reported the following summer. The reports of this test will be awaited with great interest. This is a matter of vital importance to the alfalfa industry of Wisconsin. Kansas and Nebraska alfalfa seed can be secured from two to three dollars per bushel cheaper than the Montana and other Northern grown seeds. If they are just as hardy, or hardy enough to be adapted to our conditions a great deal of money can be saved in future alfalfa seed purchases. On the other hand, if this state-wide test shows that the portions of the fields seeded with southern grown seed winterkill badly and the remainder of the fields seeded with northern grown seed do not winterkill, the association will then be in a

Alfalfa experimental plots at the University Farm. Many strains and varieties of alfalfa from all over the word are under investigation by the Alfalfa Order of the Experiment Association.

Field of Pedigree Barley on the farm of O. R. Wiegand, Cleveland, Wis.

position to wage warfare against the sale of Kansas, Nebraska, Oklahoma, and other southern grown alfalfa seeds in Wisconsin, and especially guard against the sale of these seeds as northern grown alfalfa seed. This is one of the numerous ways our Association can be of great service to the farmers of Wisconsin.

BUYING ALFALFA SEED CO-OPERATIVELY FOR PLANTING AND EXPERIMENTATION.

In order that the Alfalfa Association becomes of the greatest possible assistance to its membership and to facilitate state-wide experimentation and to arouse general interest in alfalfa, a plan has been followed by which the management has arranged for the coöperative purchase of alfalfa seed for its membership. Orders are sent direct to the Secretary, who purchases high grade seed in large amounts and distributes it according to the orders of the members. During the spring of 1912 thirty-six thousand pounds of alfalfa seed were disseminated according to this coöperative plan.

Last year over fifty-two thousand pounds of seed were distributed, making a total of more than eighty-eight thousand pounds of high grade alfalfa seed which have been secured by the association for its membership.

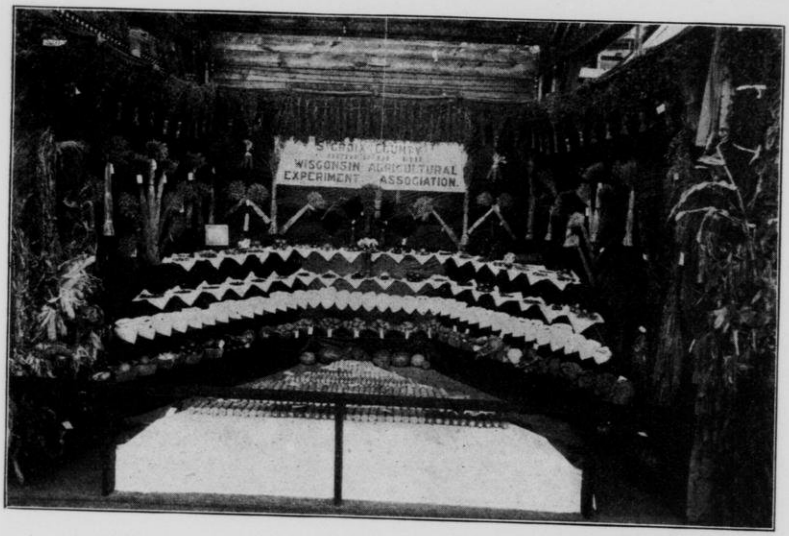
ALFALFA SEED FOR 1914.

We have been very fortunate in securing some elegant seed this year,—I believe the best our Association has ever sent out. We could have secured a much cheaper grade, but that is not the purpose of the organization. I have just arranged for the purchase of about three hundred bushels of the Montana seed, which comes from a field said to be thirty-seven years old and has a wide reputation for its hardiness. It cost a rather high price but we are anxious to give it a trial and if it proves to be meritorious this seed can be secured for future years. We plan to divide this seed so that about one-half or more of each order for northern grown seed will be this particular strain of alfalfa seed and this will be included at the same price as the regular Montana seed. Orders are coming in fast and it seems that much alfalfa will be sown this coming spring. It is hoped that the members will send their orders in early so that we can ship the seed in time for spring planting.

We are also handling for the members this year, a limited amount of Kansas, Nebraska, and South Dakota alfalfa seed primarily to conduct the test previously spoken of. We do not advise our members to buy these seeds in very large amounts until their hardiness and adaptability have been carefully tested over the entire state.

FUTURE POSSIBILITIES OF THE ALFALFA ORDER.

A great deal is being said these days regarding alfalfa. Newspapers, agricultural journals, magazines are voicing its praises in their columns and heralding it as the "Wonder Crop" of America. Alfalfa organizations are being formed in other states, in counties, in towns, in cities, and just of late a National Alfalfa Grower's Association has been formed. Alfalfa is commanding the attention of railroad men, bankers, lawyers, merchants,—men of every profession. And it is deserving of all these tributes. I am glad to say, too, that Wisconsin stands as one of the leading states in this movement. We are not talking alfalfa alone—we are doing things. During the past two years eighty-eight thousand pounds of alfalfa seed has been secured for our members by the association for planting and experimentation. Seven hundred general tests on alfalfa growing in Wisconsin have been made. The results of three hundred tests on thick and thin seeding will be available next spring as well as one hundred and forty tests on southern vs. northern grown alfalfa seed. This data will be of inestimable value to our state. We have a great work before us but we have just begun. Let "Forward" be our watchword and let us all unite pushing this great work of establishing a strong alfalfa industry in Wisconsin. It will mean bigger and better crops and more and better live stock. We need the support and hearty coöperation of every live farmer in the State of Wisconsin.



Attractive display of the St. Croix County Order at the 1913 State Fair.

Rock County Order won first place with their display at the last State Fair.

PLACING A COUNTY EXHIBIT AT THE STATE FAIR.

NOYES RAESSLER, Beloit.

As there is a certain amount of necessary expense connected with the work of getting up the county exhibit, this is the first step to be considered. There are three ways in which money can be raised for this purpose.

1. Appropriation by the County Board.
2. Voluntary contributions from local bankers, real estate men or merchants.
3. Assessments of the members of the County Order, where there is an unusually large membership.

Of these, the first two are by far the most successful and satisfactory, especially in the northern counties. In order to obtain an appropriation from the county board, it is necessary to present the matter at the November meeting, as that is the time all matters of this kind are taken up.

The secretary of the county order should take pains to explain to the county board the advantages of making a county exhibit at the state fair and in most cases from $100 to $300 can be obtained in this way.

Having secured the funds, the next thing is gathering material for making the display. This work should be outlined at the annual meeting of the county order, each member making it his business to contribute something in the shape of farm products toward the exhibit.

The sheaf grains require very careful handling and must be kept in a dry place or they will discolor. Grasses and clovers must be cured in a dark room in order to preserve their green color. Vegetables, fruits, corn and forage plants, should be kept as fresh as possible, otherwise the hot weather soon destroys their attractiveness.

All material should be ready for shipment at least a week before the fair. In packing, use good, strong boxes for the sheaf grains, slatted crates for the forage plants, and barrels for the vegetables. Threshed grains can be put into small sacks, securely tied and labeled, then placed in ordinary grain sacks. Ear corn is best packed in crates having the openings covered

with screen. If wrapped in paper or packed in tight boxes, mould is apt to set in should corn not be thoroughly dry.

In arranging the exhibit it is well to give prominence to the most important crop grown in the county. This gives the visitors a better idea of the agricultural wealth of each county.

The name of the grower and location of his farm should accompany each article exhibited so that interested parties may refer to him if they wish.

Either the president or secretary of the county order should be in the booth during the entire fair, and be ever ready to render any information regarding the county he represents. Unless this is done, the county cannot expect to get full value out of the expense incurred. It must be remembered that the purpose of a county exhibit is to show the public what crops are grown in that particular community, what opportunities are offered to those who may come there to live, and, in a general way, the wealth contained in the land.

If those in charge of the exhibit will fulfill their duty, the direct and indirect returns to the county will many times cover the cost of having the county represented at the state fair.

CONSTITUTION AND BY-LAWS.

OF THE

ALFALFA ORDER

OF THE

WISCONSIN AGRICULTURAL EXPERIMENT ASSOCIATION.

ARTICLE I. *Name.*—The organization shall be known as the Alfalfa Order of the Wisconsin Agricultural Experiment Association.

ARTICLE II. *Object.*—The object of this organization shall be to promote the alfalfa interests of the state in general.

1st. By coöperating with the Department of Agronomy and the Wisconsin Agricultural Experiment Association in growing, experimenting and in the wide dissemination of alfalfa.

2d. By having alfalfa exhibits at agricultural fairs.

3rd. By having annual meetings in order to report and discuss topics beneficial to the members of the Order.

4th. By distributing literature and information bearing upon the production of alfalfa for seed and forage.

ARTICLE III. *Membership.*—1. Any person may become a member of this Order who has taken a course in the College of Agriculture at Madison or at any place in the state under the jurisdiction of the College.

2. Any farmer who is interested in the growing of alfalfa and willing to coöperate under the direction of the Order may become a member of this Order.

3. Honorary membership may be conferred upon anyone interested in progressive agriculture by a majority vote at any annual or special meeting.

ARTICLE IV. *Dues.*—A fee of 25c shall be collected from each member annually.

ARTICLE V. *Officers.*—The officers of this Order shall consist of a President, Vice President and Secretary-Treasurer, whose terms of office shall be for one year or until their successors are elected.

ARTICLE VI. *Duties of Officers.*—1. It shall be the duty of the President to preside at all meetings of the Order and to enforce the observance of such rules and regulations as will be for the best interest of the organization; to appoint all regular committees as he may deem expedient for the welfare of the Order.

2. In the absence of the President, the Vice President shall preside and perform the duties of the President.

3. The Secretary-Treasurer shall keep the records of all meetings and proceedings of the Order, also the names of all members and their addresses. He shall also keep the funds of the Order, collect all fees, pay all debts, and shall submit a written statement of all moneys received and paid out by him and shall balance his books not later than one month before the annual meeting.

ARTICLE VII. *Disbursements.*—The funds of the Order shall be used to defray its expenses or by vote of the Order for such purposes as will advance the interests of the Order and shall be paid out upon an order signed by the President and countersigned by the Secretary.

ARTICLE VIII. *Amendments.*—This Constitution may be amended at any meeting by a two-thirds vote of the members of the Order present.

By-Laws.

Article I.—The officers of this Order shall be elected by ballot at the annual meeting.

Article II.—This Order shall be governed by Robert's Rules of Order.

Article III.—All members joining at the organization of this Order, shall be known as Charter Members.

Article IV.—The time and place of holding the annual meeting shall be determined by the officers.

Adopted Sept. 14, 1911.

ALFALFA.

PROF. G. J. CHRISTIE, Purdue, Ind.

A campaign for alfalfa production is being waged in all parts of the United States. "Alfalfa for every farm" is a slogan generally used by the army of agricultural workers. Claims are made that this crop will rejuvenate the old farm and double future corn and grain crops; that alfalfa makes live stock raising both possible and profitable; that alfalfa is necessary to make dairying pay; and that the farmers who do not grow this leguminous crop are not in a position to realize the greatest possible results from their agricultural operations. These and other claims are classed as extravagant and harmful when made in a general way without reference to the needs of the farmers of the communities for which the crop is recommended.

The question as to whether the farmer should or can grow alfalfa is dependent upon the answer to the question, "Can alfalfa be used profitably on the farm?

Farmers of the central west, where milk, pork, beef, and mutton are being produced in an extensive way, are demanding a farm crop that will furnish large quantities of protein at a low cost. Commercial feeding stuffs, such as bran, cotton seed meal, linseed meal, gluten feed, etc., that contain large quantities of protein, are very expensive and are not fed by the average farmer at any large profit. Alfalfa meets these demands in a most satisfactory way.

DIGESTIBLE NUTRIENTS IN VARIOUS FEEDS, POUNDS PER HUNDRED.*

Feeds.	Total dry matter.	Digestible protein.	Digestible Carbohydrates.	Digestible fat
Alfalfa hay	91 6	11 0	39.6	1 2
Red clover hay	84.7	6 8	35.8	1.7
Cowpea hay	89 3	10 8	38 6	1 1
Timothy hay	86 8	2 8	43.4	1 4
Wheat bran	87 7	12 3	37.1	2 6
Cotton seed meal	91 8	37.2	16 9	12 2
Corn grain	89 4	7 8	66.7	4.3
Oats grain	89 0	9.2	47 3	4 2

* Compiled from Henry's "Feeds and Feeding."

Table number 1 shows the digestible protein in various feeds. Alfalfa has 11% while red clover hay has 6.8%, timothy hay 2.8%, and wheat bran 12.3%. Alfalfa in digestible protein is nearly double that of red clover hay and almost equal to that most valuable of feeds for dairy cows, wheat bran. When we take into consideration that the average yield of alfalfa is from four to six tons per acre, we can conclude that alfalfa is furnishing a large amount of digestible protein at a small cost.

At the Illinois Experiment station, experiments were conducted comparing alfalfa hay with timothy hay and wheat bran in feeding dairy cows.

ALFALFA VERSUS BRAN FOR MILK PRODUCTION IN RATIONS OTHERWISE THE SAME.

Periods 9½ weeks.	Lot 1, three cows.		Lot 2, three cows.	
	Feed.	Total milk. Lbs.	Feed.	Total milk. Lbs.
Dec. 9 to Feb. 7	Alfalfa	5163	Bran	5037
Feb. 10 to Apr. 14	Bran	4434	Alfalfa	4584
Total milk from alfalfa		9747		
Total milk from bran		9501		
Total gain from alfalfa		246		

Where alfalfa was compared with bran for milk production during a period of 19 weeks, cows receiving alfalfa hay produced 9,747 pounds of milk, while those receiving bran in the ration produced 9,501 pounds, showing a difference of 246 pounds of milk in favor of alfalfa hay.

ALFALFA VERSUS TIMOTHY FOR MILK PRODUCTION IN RATIONS OTHERWISE THE SAME.

Period 6 weeks.	Lot 1, eight cows.		Lot 2, eight cows.	
	Feed.	Total milk lbs.	Feed.	Total milk lbs.
Jan. 7 to Feb. 18	Alfalfa	9,976	Timothy	6,632
Mar. 11 to Apr. 22	Timothy	9,072	Alfalfa	8,520
Total milk from alfalfa		18,496		
Total milk from timothy		15,704		
Total gain from alfalfa		2,792		
Value of milk, 2,792 pounds at $1.30 per 100 pounds, $36.20.				

In the test comparing alfalfa and timothy hay, we find that the total milk production from feeding alfalfa was 18,496 pounds. while that from the cows fed timothy hay was 15,704 pounds, showing a total gain for alfalfa of 2,792 pounds of milk. Valuing this milk at $1.30 per hundredweight, the increase is $36.30. There was fed to these cows during the experiment, 3.34 tons of alfalfa hay, which gives a value to the alfalfa of $10.86 more per ton than that of timothy.

ALFALFA PASTURE FOR HOGS.

	Corn and alfalfa pasture	Corn in dry lot.
Average daily gain	2.83	2.55
Grain per pound gain	3.01	4.31
Cost per cwt. gain	$1.88	$2.61
Corn 35c per bushel		
Price received per bushel of corn	$1.02	$.71

At the Nebraska Experiment Station, hogs were fed on alfalfa pasture in comparison with hogs fed on a dry lot. The results show that the cost per hundredweight gain on alfalfa pasture was $1.88 while in the dry lot the cost was $2.61. The price received per bushel of corn fed was $1.02 on alfalfa pasture, while in the dry lot it was $.71.

In sheep and cattle feeding, similar results have been secured, showing alfalfa to be a most desirable and valuable feed.

Where farmers are keeping live stock and use large quantities of hay, alfalfa should be grown to supply the need. Under ordinary conditions and on the average farm of the central west, it is not desirable nor profitable to grow alfalfa for the market. Perhaps no farm crop contains per ton a larger quantity of fertilizing constituents.

Since the matter of soil fertility is of first importance, and our great problem of to-day is that of maintaining the productive capacity of the farm, it is undesirable to grow and sell from the farm a crop that carries with it large quantities of the valuable elements of plant food.

FERTILIZER CONSTITUENTS IN ONE TON OF VARIOUS ROUGH FARM FEEDS.

Kind of feed.	Nitrogen lbs.	Phosphoric acid lbs	Potash lbs.	Value.
Alfalfa hay	53.2	10.8	49.2	$10.81
Corn silage	6.6	2.4	7.2	1.43
Corn stover	15.6	5.6	20.0	3.54
Timothy hay	21.6	7.0	26.8	4.42
Clover hay	41.8	8.6	41.6	8.65
Cowpea hay	49.6	13.2	47.2	10.26
Wheat straw	8.6	2.6	14.8	2.12
Oats straw	13.0	4.4	24.4	2.32

*Analysis from "Forage Crops" Voorhees.

In referring to the above table, showing the fertilizing constituents in various rough farm feeds, it is noted that alfalfa hay contains 53.2 pounds of nitrogen, 10.8 pounds of phosphoric acid, and 49.2 pounds of potash to the ton. Figuring the nitrogen at 15c per pound, potash 5c per pound, phosphoric acid 3.5c per pound, the plant food alone in alfalfa hay is worth $10.81. When we add to this the cost of production, it is readily seen that the farmer must receive a high price for alfalfa hay, to warrant him in selling it from the farm. It seems more desirable to feed it to the live stock and return the manure to the land.

After a person has studied the alfalfa question from the standpoint of utilization on the farm and has decided that it is a desirable crop and can be used to advantage and with profit, he should turn his attention to the production of it. One of the first and important things to do is to decide on the location of the field. Owing to the fact that alfalfa must stand from 6 to 10 years, it cannot be given a place in the regular rotation on the farm. It is necessary to have a piece of land outside of the regularly rotated fields, so that it will not interfere in any way.

Alfalfa should not displace clover on the farm. Clover is necessary in a well-planned rotation and should be retained. The growing of alfalfa to supply hay for the live stock will allow the clover to be used in a larger way for soil improvement purposes.

SELECTING THE LAND FOR ALFALFA.

The land selected for alfalfa should be well drained. The long tap roots of this crop require that the water level be low. When the water level stands close to the surface of the soil, the development of the plant is interfered with and injury from heaving

during the winter is likely to result. Further, the success of alfalfa is dependent upon the development of bacteria on the roots. These organisms will not flourish in a soil that is cold and which does not permit of a free circulation of air. The bacteria are called upon to extract large amounts of nitrogen from the air as it circulates through the soil. They develop best in soils which are warm, moist, (not wet) and which are supplied with plenty of air and free from acidity.

RELATION BETWEEN SOIL TYPE AND STAND OF ALFALFA.
348 Tests.

Kinds of soil.	No. of trials.	Fair to good stand.	Poor stand.
Clay	83	68 or 82%	15 or 18%
Loamy	188	167 or 88%	21 or 11.2%
Sandy	77	69 or 89.6%	8 or 10.4%

Table number 6 shows the relation between soil type and stand of alfalfa. In 348 trials by the Purdue Experiment Station, satisfactory results were secured on 82% of the 83 tests on clay soil, 88% of the 188 tests on loamy soil, and 89.6% of the 77 tests on sandy soil. The results indicate that alfalfa can be grown successfully on these types of soils where the proper conditions are supplied. Failures seemed to be due to other factors than the type of soil.

INOCULATION.

Alfalfa being a leguminous crop, it requires the presence of bacteria on the roots of the plants. The question of whether these bacteria are always present in the soil or must be supplied artificially has caused considerable study of the question. In a study of 222 fields, in Indiana, the following results were secured by the Purdue Experiment Station.

ALFALFA—NATURAL CONDITIONS AS REGARDS THE PRESENCE OF ROOT NODULES.
222 Tests. 1906-1909.

Condition.	No. of plots.	Per cent of total.
Abundant	50	22.5
Some	67	30.2
None	105	47.3

In fifty of the plots, the inoculation was successful and abundant. Sixty-seven of the plots showed some inoculation, but not sufficient for the best results, while one-hundred and five of the plots showed no inoculation whatever.

Under our conditions in Indiana, therefore, it is felt that some form of artificial inoculation is desirable. Fields may be inoculated by sowing 200 to 300 pounds of soil per acre, from some field or plot which has grown alfalfa or sweet clover successfully. (It has been determined that the bacteria found on sweet clover plants develop successfully on the alfalfa plant). The cost of such inoculation is reasonable and should not be neglected. There are commercial forms of inoculation on the market, which, in many cases, have been found satisfactory and if the inoculated soil cannot be secured, it would be well for those interested to investigate these commercial materials.

LIMING FOR ALFALFA.

The failure of bacteria to develop in many soils is due to the presence of acidity. In order to supply conditions necessary for the best development of leguminous plants and the desirable forms of bacteria, this acidity must be neutralized. For this purpose, lime can be used to advantage. To determine the effect of lime upon alfalfa, a number of trials were made. The results are shown in table number nine.

EFFECT OF LIMING UPON ALFALFA FIELDS.

Treatment.	Average Yields of Hay per Acre.		
	1908. 14 trials.	1909. 20 trials.	1910. 11 trials.
Limed	4,050 pounds	*2,454 pounds	4,051 pounds
Unlimed	3,478 pounds	*2,162 pounds	3,455 pounds
Difference in favor of liming	572 pound	*292 pounds	596 pounds

*First cutting only.

In the tests conducted in 1908, the difference in favor of liming was 572 pounds per acre. In 1909, in the first cutting, the difference was 292 pounds, while in 1910, the difference was 596 pounds per acre. Not all soils require lime in order that a suc-

cessful stand of alfalfa can be secured, but it was found that a majority of the soils tested responded to the application of lime. It was also noted that many soils that gave good results with ordinary farm crops required a heavy application of lime before alfalfa would grow successfully. Alfalfa is exhibiting a peculiar demand for lime and those who intend to sow alfalfa should investigate thoroughly the needs of the soil in this connection.

TIME OF SEEDING.

There is also some question as to the best time to sow alfalfa. So far as experiments have gone, it has not been demonstrated clearly just which is the best time. There are some arguments in favor of spring sowing while there are others in favor of summer seeding. One strong argument in favor of summer seeding is that it allows the securing of a crop before the alfalfa is sown. In other words, the land is not given up for an entire season to alfalfa without financial returns. Crops such as early potatoes, peas for canning, clover and small grains can be used to precede summer seeding.

Another reason for summer seeding is that damage to the alfalfa by weeds can be very much reduced. Previous to seeding there is sufficient time to cultivate the soil repeatedly at intervals of a week or ten days, and thus easily destroy many weeds as they start to grow. A large number of tests on summer seeding show the following results.

DAMAGE BY WEEDS TO SUMMER-SOWN ALFALFA.

Amount of damage.	No. of plots.	Per cent of total.
None	157	80.5%
Little	35	17.9%
Serious	3	1.6%

From this table it will be seen that 80.5% of the plots sown to alfalfa during the summer showed practically no injury from weeds, while serious injury was found on only three of all the plots under investigation.

In the late summer there is the chance of encountering drouth which may interfere with the securing of a satisfactory stand. It seems best therefore, not to delay seeding beyond August 1,

for the northern counties and August 15, for the southern and central counties.

The details connected with the securing of a successful crop of alfalfa are many. There is perhaps no farm crop that requires more attention and constant care in starting than does alfalfa. The expense of starting a field is considerable and it is, therefore, important, that those who attempt to grow this crop should give their best attention to the details, so that success may crown their efforts. Summing up these requirements for successful alfalfa culture, the following might be named.

1. A well-drained soil.
2. Soil well supplied with lime.
3. Plenty of decaying organic matter.
4. Inoculation, present or supplied.
5. A supply of available plant food.
6. Seed bed thoroughly fined and compacted.
7. Land practically free from weeds.
8. Pure seed of highest quality.

LIME FOR ALFALFA.

PROF. W. W. WEIR.

LIMING NOT A NEW FANGLED FARM PRACTICE.

The use of lime in Wisconsin for agricultural purposes is rapidly increasing. Almost every practical farmer knows something about lime. And why should not every farmer be fairly well informed as to the use of lime for soil improvement! Information along this line is not lacking. Many bulletins on liming have been published throughout the country. Almost every issue of our agricultural papers contains something on this subject. Lime agents have realized that indeed a good harvest is at hand,—and according to observations, some of these agents have not been sitting at their jobs.

Lime and liming,—we hear about it everywhere we go. Is it any wonder, therefore, that many have been misled as to its *real value?* Is this a new fad in farm practice that has been sprung on us like a rag-time song—only to run its course and then disappear? No, not so. Liming has come to stay. It is an abso-

lutely sound practice, and a very old one. The following quotation from a book published in England in 1660 (over two hundred fifty years ago) emphasizes this fact,—

"Now that this Lime is of excellent use, and wonderful profit, do but behold almost all the Countries of the Kingdome where there is any barrenness, and you shall find and see how frequently Lime is used, in so much that of mine own knowledge in some countries where (in times past) there was one Bushel made or used, there is now many loads, and all risen from the profitable experience which men have found in the same."

Alfalfa, no doubt, is responsible in a large measure for the revival of this old practice here in Wisconsin. In some sections the farmers have learned by costly experience that without lime alfalfa is an absolute failure.

LIME NOT A MAGIC FERTILIZER.

Since lime is such an excellent material for alfalfa, why should there arise any misconceptions concerning its use? "If lime will help alfalfa, it will help everything else" is the argument that causes some farmers to buy lime when they don't know whether they need it or not. Then, too, there are those who are led to believe that carbonate of lime is the long-looked-for magic fertilizer that will in some mysterious way restore all lost fertility. Perhaps some of these erroneous ideas are the results of unwise advertising we see round about us; for example,

> "Soil Fertilization—How to Supply the Missing Elements in Worn Out Soils.
>
> "Pulverized carbonate of calcium and magnesia corrects sour or acid soils, and restores worn-out land to its original fertility.
>
> "Pulverized Magnesian Lime Rock the Salvation of Worn-Out and Acid Soils."
>
> "Sweet Soil, Abundant Yields.
>
> Sour Soil means barren fields".

There are some people who believe everything they see in print.

We shall not consider here the fine points of scientific investigations regarding the effect of lime upon different plants. However, let it be emphasized that the use of lime by practical

Where the soils are acid it is necessary to add lime in some form before a good stand of alfalfa can be secured.

farmers for soil improvement hinges on the question of *profits*. If a dressing of lime is the difference between success and failure in growing alfalfa profitably, then by all means buy lime for your alfalfa. On the other hand, if you are located in a limestone country and can grow alfalfa without liming because the soil contains sufficient lime, then hang on to the money the lime agent is trying to get from you, and buy your wife a washing machine.

LIME FOR ALFALFA ON ACID SOIL.

Not a few intelligent farmers have applied lime to their soils to increase the yield of corn and grain, only to be disappointed at the results. They soon learn that corn and grain can tolerate acidity, if there is any, and that after all, liming is profitable only for alfalfa and clover on acid soils.

On a certain field near Janesville alfalfa was seeded in June, 1912, without a nurse crop. The whole field was inoculated. Being a favorable summer, the splendid "catch" gave promise of big yields. In spite of the favorable season the plants did not grow very fast even though they had good color. No crop was harvested the first year. Early last summer the plants turned yellow and the crop proved a failure. The soil was tested and found to be very acid. On a small spot in the same field the alfalfa grew very rank. Here the soil showed no trace of acidity.

On a field of acid soil west of Waupun a farmer succeeded in getting a splendid stand of alfalfa by liming and inoculating. A small strip was left unlimed and uninoculated. The second summer after seeding only a few sickly alfalfa plants could be found on that untreated strip.

Two miles east of Fennimore, Grant county, is a field of ten acres seeded to alfalfa in the spring of 1912. The whole field was inoculated and nine acres received an application of lime before seeding,—leaving one acre unlimed though inoculated. Last summer 4.25 tons of splendid alfalfa hay per acre were taken off the limed portion, and only a few weeds from the one acre not limed.

It is interesting to note that the soil of that section consists for the most part of residual clay loam derived from limestone and is underlaid by limestone. At first thought it is hard to conceive how an acid soil can develop and exist under such conditions. Yet, when we consider the action of water in dissolv-

ing rocks, and the ages required for Nature to form this soil, we can easily understand how the lime has been dissolved and washed away, and how only a little or none is left in the soil to correct any acidity that develops.

In studying the root development of alfalfa plants that are trying hard to exist in acid soils, I have observed that the growth consists almost entirely of a single, slender, straight tap-root, now and then having a few small secondary roots. Just why these slender tap-roots are developed instead of branched roots, I will not attempt to explain. It has been suggested that such roots are trying hard to get away from their acid environment just as quickly as possible, hoping to find better conditions in the subsoil lower down.

It has been found that when alfalfa roots under such conditions do find plenty of lime in the deeper subsoil, the plant does not develop nodules nor does it thrive.

When the acid soil at the surface is inoculated with the nodule-forming organisms and no lime is applied, the plant still develops no nodules and soon turns yellow and dies.

If, however, lime is added to this acid soil and thoroughly mixed with it, and inoculating soil applied prior to seeding the alfalfa, nodules are formed on the roots, a strong root system is developed, and the plant grows into a vigorous, protein-producing plant.

These observations seem to point to the following facts,—

1. Nodule-forming organisms for alfalfa are not found in very acid soils.
2. These nodule-forming organisms cannot live and multiply in an "ordinary" acid soil when such a soil is only inoculated.
3. The great value of lime seems to lie in the fact that it has the power to correct the acidity in an acid soil, and in so doing produces a better "sanitary" condition, thus favoring the development and activity of the nodule-forming organisms.

If, therefore, you wish to grow alfalfa on soil which is acid, the best course to pursue is to first lime that land,—lime it after it is plowed so that you can get it thoroughly mixed with the soil, then inoculate before seeding.

LITMUS PAPER TEST A RELIABLE, SIMPLE TEST FOR SOIL ACIDITY.

The litmus paper test for soil acidity is not only a simple test, but is a reliable one,—just as reliable as the man back of it. The precautions in making this test must be observed.

Some in their reading have run across statements to the effect that blue litmus paper is the thing that should *not* be used, for it will turn pink in any kind of soil. From many observations made throughout the state, the writer has found that in every case where the alfalfa turns yellow and dies, when other conditions are favorable, the soil when moistened will turn blue litmus paper pink in a very short time. You may call it an "acid" condition if you wish, or any other condition. At any rate it shows an *unfavorable* condition for alfalfa. It is safe to conclude from these observations that it is unwise to attempt to grow alfalfa on soil that will turn blue litmus paper pink without first liming and then inoculating.

"WHERE SWEET CLOVER GROWS ALFALFA WILL GROW" INTERPRETED.

How often we hear the statement "Where sweet clover grows alfalfa will grow." And how we often hear remarks something like this,—

"Down along our roadside the sweet clover grows like a weed, but the alfalfa I seeded over on my back "forty" failed. I guess we can't take much stock in what they say about alfalfa growing where sweet clover will grow."

In some instances the soil on those back "forties" where the alfalfa failed, proved to be acid, and in other cases they have been found to contain sufficient quantities of carbonate of lime. What is the trouble? Is not that statement true? It certainly is,—if the right interpretation is placed upon it.

Let us consider briefly a few of the characteristics of the sweet clover plant. In the first place, it belongs to the same family group of plants to which alfalfa belongs. In the second place, it is distinctly a *lime-loving plant.* The writer has not yet discovered a single sweet clover plant growing in acid soil in Wisconsin. Again, this plant develops nodules on its roots similar to those found on alfalfa; and it has been proven that the organisms which produce those nodules are like those which produce the alfalfa nodules. It seems to be a fact that if one of

these organisms was transferred from one plant to the other it does not know whether its host is a sweet clover or an alfalfa plant.

When, therefore, we see a sweet clover plant growing along the roadside or in the field, we can conclude that right there in that particular spot where the plant is growing the soil contains sufficient lime to satisfy all requirements, and moreover, those organisms are present. If we pull up that sweet clover plant and substitute an alfalfa plant or sow the alfalfa seed, the alfalfa will thrive, because the soil conditions there are favorable. Ten feet farther on the soil may be acid and sweet clover or alfalfa will refuse to grow.

Along the roadside the sweet clover may grow, but in those back fields the first attempt at alfalfa growing may result in discouraging failure, because of two reasons; viz., the soil may be neutral but requires inoculation *only* to insure a successful start; secondly, the soil may be acid and require both lime and inoculation. This rule holds true especially in sections where not much alfalfa is raised. In localities of neutral soil where the farmers have adopted the practice of sowing some alfalfa in with the clover and timothy seed, many exceptions to this rule may be found. The scattering alfalfa plants that succeed in growing enable those nodule-forming organisms found in small numbers in practically all neutral soils to multiply, thus inoculating the soil for any future alfalfa crop.

Any one driving along the county-line road west from Waupun will observe sweet clover along the roadsides. Farther on the plants disappear. Still farther on others may be found. Careful observations will reveal the fact that the sweet clover plants are found growing only along the gravelled highway, in and about gravel pits, and at out-crops of limestone. In this section the soil is generally acid.

A farmer in Green Lake county sent for a soil expert to make a diagnosis of his soil, because his alfalfa failed. The soil was found to be acid. He declared that his neighbor sowed some alfalfa the very same time he did, using the same kind of seed, and on the same kind of soil, and was successful. On examining the field in question, it was discovered that it lay just over the fence along a gravelled road, the sides of which were decorated with a few sweet clover plants. A successful stand of alfalfa,

sure enough, and no acid soil either. Here the soil was limed and inoculated by the dust blown from the highway.

Down in the southern part of Walworth county sweet clover grows luxuriantly along the roadsides, yet a couple of farmers succeeded in growing alfalfa on back fields only after they had limed and inoculated.

On a certain back field some forty miles south of Madison, alfalfa was found growing splendidly. The first load of alfalfa hay ever harvested on that field was taken off last season. The soil was not acid, no artificial inoculation was made, and no alfalfa seed was ever mixed with the clover and timothy. The puzzling question was "How did that field become so well inoculated to produce such good alfalfa?" A few questions brought out the fact that two years before, alfalfa was seeded for the first time. A splendid "catch" was secured, but in a short time only a few plants per square rod succeeded in making any further growth. The field was plowed up and reseeded. This time a success. The few plants that grew in the first attempt enabled the few scattering nodule-forming organisms to multiply and thus thoroughly inoculated the soil. This is a case where a farmer sacrificed his whole crop for the want of inoculation. He was misled because sweet clover grew along the roadside some eighty rods away.

EACH FARMER HAS HIS OWN PECULIAR PROBLEM.

It frequently happens that a man fails in his attempt to grow alfalfa, because he was wrongly advised. In Rock county a man was advised to put a certain field of fourteen acres, which was an old timothy sod, into alfalfa. He did it, and put it in without a nurse crop expecting to get some hay the first year. What was the result? The first year he got nothing from that field. The second year the hired man said it made him sick to run the mower over it, so complete was the failure. What was the trouble? The "catch" was excellent. It was bad enough to try to start alfalfa on an old timothy sod. Added to this, the soil was very acid. The man who told this farmer to go ahead did not know the conditions of the soil.

A man may be a successful grower of alfalfa, not necessarily because he understands the science back of it, but because he is in a locality where the soil conditions are especially favorable for

that crop. It soon dawns upon such a man that others believe he has discovered a secret and are anxious to get advice. They go to him. Both the successful grower and the farmer seeking advice should bear in mind that soil conditions are variable. The particular treatment resorted to on the one farm may not apply on the other one, five or ten miles away.

In Green county, for instance, a successful alfalfa grower advised a man that there was no reason why his soil should not grow alfalfa and that he had an ideal soil for this crop. The questioner went home and put in twenty acres, and met with poor success, because of unfavorable soil conditions on his farm.

It is very easy for some farmers to misinterpret the results of others;—for example, a few miles out from Juda one man was much puzzled over the fact that it took all last summer for his spring's seeding to grow about three or four inches high.

"There is no reason", said he, "why my land should not grow alfalfa just as well as my neighbor's over the fence. It's the same kind of soil, and he raised big crops of alfalfa there last year and the year before. I know my land is just as good as his".

No better season for growing alfalfa could be wished for than last summer, yet there were those little, spindling plants. The soil was acid, so was the neighbor's.

Later on it developed that the neighbor had drawn loads and loads of manure upon those four or five acres before he turned it into an alfalfa field. No wonder the alfalfa grew, and grew in spite of the fact that the soil was acid. The alfalfa that grew there must have been great, big, fat, lazy plants living on the fat of the land and preferring the nitrogen contained in the manure, which they could get without "working" for it, to that contained in the air.

Here was a soil that could not be considered an *ordinary* acid soil. Even the corn growing there last fall emphasized the fact that surely some manure must have been hauled there.

There is a farm of some 350 acres in Racine county upon which are fed about ten thousand sheep each year. Sheep manure is applied to the land at the rate of about forty to sixty tons per acre once in two years. The farmers are Popcorn Kings. Two years ago their popcorn averaged 176 baskets per acre and they raised 20,000 baskets. The soil is acid, yet alfalfa grows luxuriantly. How easily can the farmer across the road be led astray by misinterpreting these results.

CONVERTING MANURE INTO ALFALFA IS NOT THE MOST ECONOMICAL FARM PRACTICE.

It is possible to grow alfalfa on acid soils by heavy manuring Converting manure into alfalfa hay in this manner, however, does not seem to be the most economical practice in utilizing the manure.

Over in Norway, and to a certain extent at Niagara Falls, they have realized the possibility of using the nitrogen of the air in making commercial nitrogen fertilizer. It is done by means of cheap electricity in an electric furnace. One hundred thousand tons of this fertilizer is reported to have been produced in Norway in the year 1911.

Are we coming to a day when we will be forced to buy this nitrogen fertilizer? Let us hope not,—since the farmer has within his reach such efficient machinery in alfalfa and clover for gathering nitrogen from the air. Let us learn how to run these machines most efficiently. Some are overly anxious to let go entirely the good, old red clover, and plunge aimlessly into alfalfa. Perhaps its because "everybody's doing it".

Light applications of manure to an alfalfa field is a splendid thing to insure a good start, especially when the soil is not as fertile as it might be. Feeding manure to alfalfa is something like they used to do in raising tobacco. Tobacco got the manure. "But," you will say, "This is a different proposition. We feed our alfalfa hay, and return the manure to be used over again." Yes, that seems a very beautiful scheme of perpetual fertility. But, you are not considering the tremendous loss of nitrogen in the transaction.

It is reasonable to assume, and the assumption is supported to a greater or lesser degree by scientific research, that alfalfa growing on an acid soil because of heavy manuring, or growing on any other kind of soil heavily manured, does little or nothing at all in gathering nitrogen from the air.

The average farm will give better returns from the manure if it is applied in lighter application and over greater area. If the soil is acid, and alfalfa is to be grown, it is much wiser to first lime that soil, then inoculate. If the soil happens to be low in fertility, apply some phosphate and possibly a little potassium fertilizer. A light application of manure, too, will help. But, by all means, lime the soil first.

Doing these things may seem a puttering job. If you think it is a puttering job, and you want to grow alfalfa, and you have unfavorable soil conditions, then you had better leave alfalfa alone.

Here are the conditions we wish to surround our alfalfa plant. Plenty of lime, active nodule-forming organisms, a well ventilated soil, a good supply of mineral elements,—especially phosphorus and potassium, and some nitrogen in a form that the young plants can easily get. These conditions will produce a vigorous plant that will become firmly established in the soil. The healthy plant having sufficient mineral elements to draw upon, will soon find that the supply of nitrogen in the soil is running short. Then in some mysterious way the organisms become exceedingly active, and, instead of drawing upon the soil reserves entirely, the plant will draw at least two-thirds of its nitrogen from the air. We then have a plant that is doing its maximum amount of work.

The hay produced is fed, and the manure hauled upon other fields. Then instead of having just an alfalfa field, we have also a nitrogen fertilizer manufacturing establishment. If the alfalfa shows signs of falling off in yield after a couple of years, apply some soluble mineral fertilizer as a top-dressing immediately after cutting or early in the spring. A mixture of two hundred pounds of acid phosphate and fifty or seventy-five pounds of muriate of potash per acre will answer the purpose.

WHEN IN DOUBT, BEGIN ON A SMALL PATCH.

If for any reason the ability of the soil to grow alfalfa is doubted, it is always safe to start on a small patch,—an acre or two. If lime must be used to correct acidity, get almost any form of lime that is fine enough so that at least sixty per cent will pass a sixty mesh sieve; and a form that will give you the most carbonates for your money. Pulverized limestone is fast becoming the favorite material. The lime can be spread by means of a manure spreader; or, if you do not wish to transfer the limestone, for example, from the wagon-box to the spreader, it can be spread both quickly and evenly from the wagon by means of a shovel. When much lime is to be applied, it is well to invest in some good lime spreader.

If, in this manner of experimenting, it is found that liming proves profitable in raising alfalfa, lime the soil and then lime some more.

REPORTS OF SECRETARIES OF THE DIFFERENT COUNTY ORDERS OF THE ASSOCIATION.

SECRETARY'S REPORT OF FOND DU LAC COUNTY ORDER.

A. F. Block, Lomira.

Inspired with the fruitful efforts of 1912, the year 1913, proved a banner year for the Fond du Lac County Order. The season was most ideal for growing crops which yielded a bountiful harvest. As in previous years the members of the Order report much satisfaction in disposing of their seeds, doing considerable advertising, thus getting a good mail order trade established.

The members also displayed great efforts in making the grain show held under the auspices of the Business Men's Association of Fond du Lac a great success, capturing many prizes and making the contest and show in general very interesting and instructive, hence showing the superiority of choice grown seeds.

Through the continued efforts of the members the Order is proving a good success through the county in general, aiding in every possible way in improving and disseminating pure bred seeds.

SECRETARY'S REPORT OF THE EAU CLAIRE CO. ORDER.

A. C. Russell, Augusta.

We now have enrolled in our order fifty-two members and are getting in more right along. We are just getting into shape to do a great deal better than we have. The secretary of our order lives near Augusta, nearly in the eastern part of the county and the president lives near Eau Claire nearly in the western part of the county and in this way we have things

pretty well arranged to work the whole county to good advantage.

Mr. Ingalls our County Representative of Agriculture, is also helping us a great deal. Eau Claire gave a Corn and Grain Show for the farmers of the county under the direction of the Eau Claire banks, and we arranged to have a special meeting at that time of which Prof. R. A. Moore gave us a very rousing talk explaining what was being done in some of the County Orders and geting us all enthused in general.

We made an Exhibit at our County Fair this fall in a small way, and our County Representative is helping us in trying to get an appropriation from the county to make a showing at the State Fair next fall.

Some of the members are doing very well in raising and selling Pure Bred Grains, and we are using every means possible not to let anything go out but what is O. K. in every way.

We are using our County Representative in building up our Order as he comes in contact with the people as he travels about the county and has a very good chance to tell them what our Order is for.

SECRETARY'S REPORT OF ONEIDA COUNTY ORDER.

E. L. LUTHER, Rhinelander.

The Oneida Order of the Wisconsin Agricultural Experiment Association was formed on March 15, 1913, at a meeting of the Farmers' Course being held in Rhinelander. The original membership was thirteen. We now number twenty.

We have members growing Wisconsin Pedigree Barley, Oderbrucker Barley, pure bred seed potatoes, pure bred poultry, and using pure bred dairy sires. As this is one of the newest counties not so very much is to be expected in the way of extensive results. But a fine beginning has been made and the members of this order are in splendid attitude towards producing good seed stock.

A small exhibit was made at the County Fair. The seeds exhibited were good.

The attitude of the farmers in Oneida county towards the subject of better seed has almost completely changed, from that

of planting most any kind of seed, secured at the last moment before planting to that of securing only the best seed, early enough to be sure to get good seed, that is pure and that will surely grow.

SECRETARY'S REPORT OF RACINE COUNTY ORDER.

A. E. Skewes, Union Grove.

The Annual Meeting of the Racine County Order, for 1913 was held in March. In connection with the meeting, the Order held a grain show, at which the members exhibited their choice grains. The grain show was also taken to the County School of Agriculture.

With a deficit in the treasury of $2.60 in the spring of 1913, we are now ready, financially, for our 1914 annual meeting with $150.00 in the treasury and over $50 more promised. Our membership fee of fifty cents brought $16 of that amount, and the remainder has been raised by soliciting banks and large business houses in our county.

In order to find out about what exhibits we would have, and what seed grain was obtainable, a report blank was sent to each member to be filled out and returned to the secretary. This plan has not worked well as many members have not returned the report.

We are planning our annual meeting, and two institutes for this winter, besides the grain show.

Our work has not progressed as much as it would have, had it not been for the loss of our Secretary-Treasurer last fall, through whose efforts the Order has made most of its progress.

SECRETARY'S REPORT OF THE MARINETTE COUNTY ORDER.

D. S. BULLOCK, Marinette.

The Marinette County Order has finished its first year. It was organized December 20, 1913, with 26 charter members. There are at present 114 members five of whom are honorary.

The principal methods used in securing members are as follows:

First,—An article dealing with the Order, its objects and the advantages it offers the farmers of the county was published in all of the county papers, and also in the quarterly bulletin of the county agricultural school.

Second, —At farmers' meetings throughout the county a ten minute talk was given on the Order and members solicited.

Third,—At the Bankers corn and grain contest small leaflets were distributed and all members wore conspicuous badges.

Circular letters were sent out to all the members four times during the year. These circulars dealt with the following topics:—

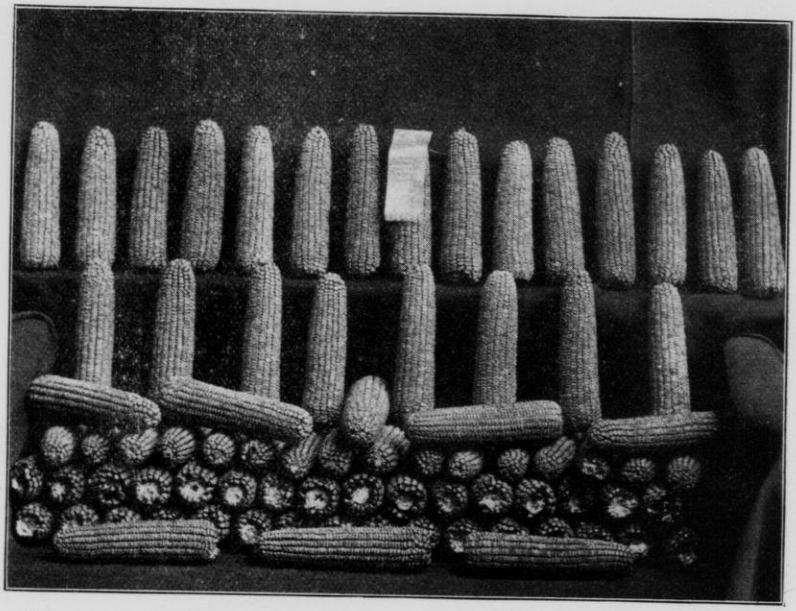
First,—A list of pure bred grains recommended for the county.

Second,—A special letter on the seed corn situation.

Third,—Blanks for members to fill out concerning pure bred grains and live stock for sale.

Fourth,—A special circular announcing the annual meeting and urging members to make exhibits at the Bankers corn and grain contest.

During the current month there will be published a list of members together with the kind of pure bred grains, live stock and potatoes they have, and the quantities of each that are for sale.



Prize winning 50 ear lot of Murdock corn exhibited at Association's Pure Bred Grain Show by H. C. Brueckner, Jefferson; purchased for corn breeding plot by J. P. Bonzelet, Eden.

Display of grains and forage crops at the annual meeting of the Racine County Order.

SECRETARY'S REPORT OF MANITOWOC COUNTY ORDER.

C. W. MEISNEST, Manitowoc.

Our last annual meeting was held March 12, 1913. We have about forty members all of which are active. Our order has been in existence five years, organized in 1909. Up to this time our attention was chiefly centered on pure bred grains, and most of our programs have dealt with this subject. Other topics were taken up as Soils and Dairy Breeds, but not emphasized as much.

Largely through our Order have the pedigreed grains come to the front. Wis. No. 7 and No. 12 corns now predominate in the county. At first there was opposition which was overcome through the efforts of county order members. Much pure seed is advertised through our order, and much was sold right at one annual meeting. We are planning to hold a corn show this year in connection with our meeting, to consist chiefly of an exhibit by our school boys who entered our acre corn contest the past year. Prizes will be offered.

Our Order the past year has issued a "Seed Growers and Live Stock Breeders List" and in this way have aided the members in disposing of their produce. Five years ago but very little pure bred seed was sold by farmers. Here and there neighbors would exchange seed. Now we have twenty or more farmers who sell much of their Pure Bred Seed to nearby or distant people.

SECRETARY'S REPORT OF THE BARRON COUNTY ORDER.

FRANK D. OTIS, Barron.

The Barron County Order was organized May 2, 1913, with a membership of five. Wm. Bartlett, Barron, was elected Pres., Herman Lemke, Cameron, Vice Pres., and Frank D. Otis, Barron, Secy-Treas. Since that time the membership has increased to 43.

The Association entered three exhibits in the township contest at the local county fair and took 2nd, 3rd, and 4th premiums. We held a corn and grain show this fall which was fairly successful for a first attempt. Next year we hope to make improvements in these exhibits and also to show at the State Fair.

We have about 60 bu. of Wis. Ped. No. 1 oats to distribute to our members and have an acre each of rye and winter wheat sown for distribution next year.

SECRETARY'S REPORT OF THE IOWA COUNTY ORDER.

J. A. VAN NATTA, Dodgeville.

Iowa County Order was organized March 1913, at Dodgeville. The call for the meeting and organization was issued by Supt. Van Natta upon request of a number of grain and stock breeders.

The direct purpose being to encourage scientific farming and forming a clearing house for the member's grain and stock.

The spring of 1913 was a very profitable one for the members who had pure bred grains to put on the market and all were sold. The distribution was general and the result will necessarily be good.

The Order exhibited grains at the 1913 State Fair and the county board of supervisors appropriated $150 to assist in a 1914 exhibit at the State Fair.

The Order is in coöperation with the boy's corn and grain

show and will make an exhibit of grains at the county seat open to all for inspection.

Alfalfa was greatly encouraged this year and fifty school boys started alfalfa on farms where heretofore had been no alfalfa.

A number of experiments on commercial fertilizer were made the past year and the coöperation of the agricultural high schools has been appreciated.

Glass sample bottles were purchased by the order so that samples of grains might be distributed to schools and for advertising purposes.

The organization has a membership of 70 members with good prospects of increasing the number to one hundred during the coming year.

SECRETARY'S REPORT OF THE PIERCE COUNTY ORDER.

W. W. Clark, Ellsworth.

We held three meetings during the year. At two of these meetings we had good live programs and discussions on farm topics of the day.

In connection with the Pierce County Fair we put on an acre corn contest. We paid $100.00 in premiums for this contest.

We are now working out a system of exchange among the members. Each member will list seed corn, stock, or anything he wishes to dispose of with the secretary. Secretary will have these lists published weekly in several of the county papers.

We have a committee appointed and working to boost the Round-up Institute that is to be held in March. The County Order was instrumental in getting the round-up for Ellsworth.

We are having printed post cards on which are applications for membership. Each member will be supplied with these and will be expected to do personal work in getting new members.

We now have thirty members in good standing and expect to have a hundred before the close of another year.

SECRETARY'S REPORT OF THE RICHLAND COUNTY ORDER.

H. L. Post, Sextonville.

The last annual meeting of the Richland County Order was held in Richland Center March 1st, 1913, at which time we also held a grain show in connection, and through the generosity of the Richland Commercial Club were able to offer very liberal premiums which drew a large exhibit, having 57 individual exhibitors. A very high class of grains were shown as our premium lists included only the pedigree and pure bred strains.

At this meeting were discussed several items of interest to the members among which was the matter of preparing an exhibit for the state and county fairs.

We found, at the time of the state fair that we had plenty of very good material but could not get the necessary help to place it in the show as all members seemed to have too much to keep them at home.

We therefore were only able to show at our county fair at which place we had a very creditable display of pure bred seeds and forage plants and several new designs were worked out for showing the sheaf grains, grasses and heads of grain. It was also a noticeable fact that the farmers of the county, who visit the fair, take more interest in the pure bred seeds and grains each year and the members pick up more business at each show. We are at present doing some advertising, calling attention to the superiority of the pure bred seeds and furnishing a list of members who have them for sale and in this way hope to get more farmers here interested in the work and by so doing increase our membership.

SECRETARY'S REPORT OF KEWAUNEE COUNTY ORDER.

C. F. TESKE, Kewaunee.

The Kewaunee County Order of the Wisconsin Experiment Association was organized by Prof. R. A. Moore on June 7, 1913, with a charter membership of twenty-three. The officers of the order decided to hold the annual meeting on October 11 at Kewaunee. Each member of the order was requested to bring an exhibit of grain, fruit, or vegetables, and also interest his neighbors in making an exhibit and attending the meeting. Prof. R. A. Moore was asked to address the meeting and judge the exhibits. An exhibit of the industrial work of the graded schools was made by the principals.

A sweepstake prize of $1.00 was offered for the best grain of all grades of any kind, and ribbons as prizes in any grade. A picture was offered for the best exhibit of work from graded schools and ribbons for the others.

At the close of the program, the business meeting of the order was held. A committee of five members from different parts of the county was appointed by the president to aid in advancing the interests of the order. The grain was donated to aid in defraying the expenses of the order. Nine more members were secured at his meeting. The annual meeting for 1914 is to be held at the time of the annual county board meeting.

At the meeting of the Holstein-Friesan Breeder's Association two more members were secured, making our total membership thirty-four. We expect to increase our membership the coming year by holding a Corn Growing Contest by the pupils of the schools.

SECRETARY'S REPORT OF THE ST. CROIX COUNTY ORDER.

WM. SCHWANDT, Deer Park.

During the year 1913 we confined our efforts mostly in strengthening and improving the work begun during the previous year. Our membership has increased very satisfactorily, and although no regular notice of membership dues was sent out this year, most of the members attended our annual and June meetings and paid up their dues. This shows the evergrowing interest taken in the advancement of the Order. I would not, however, advise the different Orders to follow our example of 1913, but would recommend that notice be given not once but twice. This will be our policy in the future.

Owing to the fact that our State and County Fairs were held the same week, as was also the North Wisconsin State Fair and our Inter County Fair at Glenwood City the following week, it was necessary to divide our exhibits in two parts. This involved a larger expense than otherwise and harder work for the men in charge, but the result was fairly satisfactory to all concerned.

Another booklet was issued by our Order somewhat different than our 1912 booklet. It is of a more instructive character being composed of how to raise "Pure Bred Grains" and also "How to Grow Pure Bred Cattle". Every article was written by members of the Order, in most cases accompanied by illustrations, and also contained the advertisements of Pure Bred Grains for sale by the members together with other advertising matter to help pay the cost of printing.

I would suggest at this time that the County Orders make a united effort to secure a regular county representative, as it is impossible for the officers of the County Orders to spend their time giving advice to other fellow farmers when we have to neglect our work in so doing. It would be well to figure the possible tax per average farm that each farmer would be required to pay for the support of such a County Representative, and present these figures at every available opportunity, such as corn shows, institutes, and particularly to the county board. This body is the one asked to make the necessary appropriation

for his maintenance. Then compare these figures with similar ones prepared regarding the money spent for state road purposes. Not that we are against good roads, but we believe agricultural advancement comes ahead of good roads. Where there are rich and progressive agricultural communities good roads are sure to follow.

Let us all work for a County Representative in 1914, one that will work hand in hand with the County Orders, County School Superintendents, and if necessary with the business men's associations in the different towns.

CONSTITUTION AND BY-LAWS OF THE COUNTY ORDERS OF THE WISCONSIN AGRICULTURAL EXPERIMENT ASSOCIATION.

ARTICLE I.—*Name.* The organization shall be known as the..... .....County Order of the Wisconsin Agricultural Experiment Association.

ARTICLE II.—*Object.* The object of this organization shall be to promote the agricultural interests of the County and State in general.

1st. By coöperating with the Wisconsin Agricultural Experiment Association in growing and disseminating pure bred seed grains.

2nd. By having Associations' exhibits at agricultural fairs.

3rd. By having annual meetings in order to report and discuss topics beneficial to the members of the Order.

ARTICLE III.—*Membership.* 1. Any person may become a member of this Order who has taken a course in the College of Agriculture at Madison or at any place in the State under the jurisdiction of the College.

2. Any one who is interested in pure bred grains and live stock or in progressive farming in general may become a member of this Order.

3. Honorary membership may be conferred upon anyone interested in progressive agriculture by a majority vote at any annual or special meeting.

ARTICLE IV.—*Dues.* A fee of fifty cents shall be collected from each member annually.

ARTICLE V.—*Officers.* The officers of this Order shall consist of a President, Vice President and Secretary-Treasurer, whose terms of office shall be one year, or until their successors are elected.

ARTICLE VI.—*Duties of Officers.* 1. It shall be the duty of the president to preside at all meetings of the Order and to enforce the observance of such rules and regulations as will be for the best interest of the organization; to appoint all regular committees as he may deem expedient for the welfare of the Order.

2. In the absence of the President, the Vice President shall preside and perform the duties of the President.

3. The Secretary-Treasurer shall keep the records of all meetings and proceedings of the Order, also the names of all members and their addresses. He shall also keep the funds of the Order, collect all fees, pay all debts, and shall submit a written statement of all moneys re-

ceived and paid out by him and shall balance his books not later than one month before the annual meeting.

Article VII.—Disbursements. The funds of the Order shall be used to defray its expenses or by vote of the Order for such purposes as will advance the agricultural interests of the Order and shall be paid out only upon an order signed by the President and countersigned by the Secretary.

Article VIII.—Amendments. This constitution may be amended at any meeting, by a two-thirds vote of the members of the Order present.

BY-LAWS.

Article I. The officers of this Order shall be elected by ballot at the annual meeting.

Article II. This Order shall be governed by Robert's Rules of Order.

Article III. All members joining at the organization of this Order shall be known as Charter Members.

Article IV. The time and place of holding the annual meeting shall be determined by the officers.

Adopted ....., 19....

CONSTITUTION AND BY-LAWS OF THE TOWNSHIP AGRICULTURAL CLUBS OF THE COUNTY ORDERS OF THE EXPERIMENT ASSOCIATION.

Article I. Name.

The organization shall be known as the (Name of township) Agricultural Club of the (Name of County Order) of the Experiment Association.

Article II. Object.

The object of this organization shall be to promote the agricultural interests of the town, county, and state.

1st. By coöperating with the County Order and State Experiment Association in growing and disseminating pure bred seed grains.

2nd. By having town and individual exhibits at County Fairs and other agricultural exhibitions.

3rd. By having at least one annual meeting and several special meetings in order to report and discuss topics beneficial to the members of the club.

4th. The special meetings should be social in character and the program shall consist of debates, discussions, readings, together with vocal and instrumental music.

Article III. Membership.

1. Any person may become a member of this township club who is especially interested in agriculture.

2. Honorary membership may be conferred upon anyone interested in progressive agriculture by a majority vote at any annual or special meeting.

Article IV. Dues.

A fee of twenty-five cents shall be collected from each member annually.

ARTICLE V. OFFICERS.

The officers of this organization shall consist of a president, vice president, and secretary-treasurer, whose term of office shall be one year, or until their successors are elected.

ARTICLE VI. DUTIES OF OFFICERS.

1. It shall be the duty of the president to preside at all meetings of the club, and to enforce the observation of such rules and regulations as will be for the best interest of the organization, to appoint all regular committees as he may deem expedient for the welfare of the Association.
2. In the absence of the president the vice president shall preside and perform the duties of the president.
3. The secretary-treasurer shall keep the records of all meetings and proceedings of the club, also the names of all members and their addresses. He shall also keep the funds of the club, collect all fees, pay all debts, and shall submit a written statement of all moneys received and paid out by him and shall balance his books not later than one month before the annual meeting.

ARTICLE VII. DISBURSEMENTS.

The funds of the club shall be used to defray its expenses or by vote of the club for such purposes as will advance the agricultural interests of the organization and shall be paid out only upon an order signed by the president and countersigned by the secretary.

ARTICLE VIII. AMENDMENTS.

This constitution may be amended at any meeting by a two-thirds vote of the members of the club present.

BY-LAWS.

ARTICLE I.

The officers of this club shall be elected by ballot at the annual meeting.

ARTICLE II.

This club shall be governed by Robert's Rules of Order. The secretary shall report the organization of the club with names and addresses of officers to the secretary of the county order and the secretary of the state association immediately after organization and all changes annually in officers thereafter.

COUNTY ORDERS OF THE WISCONSIN EXPERIMENT ASSOCIATION AND OFFICERS WHO GUIDE THEM.

BARRON COUNTY.

President—Wm. Bartlett, Barron,
Vice President—Herman Lempke, Cameron,
Secretary-Treasurer—Frank D. Otis, Barron.

BROWN COUNTY.

President—John F. Martin, Green Bay,
Vice President—Geo. A. Lucia, Green Bay,
Secretary-Treasurer—Wm. E. Nichols, R. F. D. 5, Green Bay.

CLARK COUNTY.

President—Fred Sears, Neillsville, R. F. D. 2,
Vice President—J. E. Counsell, Neillsville, R. F. D. 1,
Secretary-Treasurer—Geo. E. Crothers, Neillsville.

COLUMBIA COUNTY.

President—F. E. Bell, Columbus,
Secretary-Treasurer—E. J. Fritz, Columbus, R. 3.

DANE COUNTY.

President—Chas. A. Lyman, Madison,
Vice President—Otto Toepfer, Madison, R. F. D.,
Secretary-Treasurer—J. J. Garland, Madison.

DODGE COUNTY.

President—Theo. Lehman, Watertown,
Vice President—J. G. Jones, Beaver Dam,
Secretary-Treasurer—H. E. Krueger, Beaver Dam.

EAU CLAIRE COUNTY.

President—Chas. L. Koll, Eau Claire, R. F. D.,
Vice President—B. M. Arries, Augusta,
Secretary-Treasurer—A. C. Russell, Augusta.

FOND DU LAC COUNTY.

President—A. W. Hargrave, Ripon,
Vice President—Frank Donovan, Van Dyne,
Secretary-Treasurer—A. F. Block, Lomira.

GRANT COUNTY.

President—W. J. Steinhoff, Platteville,
Vice President—Ray M. Bushnell, Platteville,
Secretary-Treasurer—Orrin J. Bennett, Platteville.

GREEN COUNTY.

President—M. L. Karney, Brodhead,
Vice President—Wm. Smiley, Albany,
Secretary-Treasurer—C. Tochterman, Jr., Monroe.

GREEN LAKE COUNTY.

President—E. M. Fitzmaurice, Berlin,
Vice President—Bert Brewer, Berlin,
Secretary-Treasurer—B. F. Parsons, Berlin.

IOWA COUNTY.

President—J. F. Davis, Barneveld,
Vice President—Otto Oimoen, Barneveld,
Secretary-Treasurer—Jesse A. Van Natta, Dodgeville.

JACKSON COUNTY.

President—P. W. Jones, Black River Falls,
Vice President—Wm. Tibbitts, Melrose,
Secretary-Treasurer—Frank B. Joos, Alma Center.

JEFFERSON COUNTY.

President—Robert W. Ward, Ft. Atkinson, R. F. D.,
Vice President—Frank Guttenberg, Jefferson, R. F. D.,
Secretary-Treasurer—Wm. R. Leonard, Jefferson, R. F. D.

KENOSHA COUNTY.

President—Don Vincent, Wilmot,
Vice-President—F. L. Hatch, Spring Grove, Ill.,
Secretary-Treasurer—J. J. Kerwin, Silver Lake.

KEWAUNEE COUNTY.

President—Frank Pelisek, Kewaunee, R. F. D. 2,
Vice President—W. C. Katel, Kewaunee, R. F. D. 1,
Secretary-Treasurer—Chas. F. Teske, Kewaunee.

LA CROSSE COUNTY.

President—S. P. Markle, La Crosse, R. F. D. 1,
Vice President—Wm. Moos, Onalaska,
Secretary-Treasurer—T. H. Campion, Onalaska.

LA FAYETTE COUNTY.

President—F. J. McConnell, Darlington,
Vice President—John Stephenson, Darlington,
Secretary-Treasurer—W. W. Woolworth, Darlington.

LANGLADE COUNTY.

President—Edward Cleary, Antigo,
Vice President—Ed. Cejka, Bryant,
Secretary-Treasurer—F. G. Swoboda, Antigo.

LINCOLN COUNTY.

President—A. H. Morse, Merrill,
Vice President—Hall A. Brooks, Merrill.
Secretary-Treasurer—A. H. Cole, Merrill.

MANITOWOC COUNTY.

President—Herman Roethel, Kiel,
Vice President—R. A. Kolb, Manitowoc.
Secretary-Treasurer—C. W. Meisnest, Manitowoc.

MARATHON COUNTY.

President—G. A. Parsch, Wausau, R. F. D. 2,
Vice President—Herman Amhaus, Edgar,
Secretary-Treasurer—J. F. Kandonsky, Wausau.

MARINETTE COUNTY.

President—Fred Sweningson, Peshtigo,
Vice President—J. A. Tiedjens, Peshtigo,
Secretary-Treasurer—D. S. Bullock, Marinette.

MILWAUKEE COUNTY.

President—W. C. Schroeder, Elm Grove,
Vice President—Nelson Guenther, So. Milwaukee,
Secretary-Treasurer—F. J. Sievers, Wauwatosa,
Asst. Sec.—H. F. Schroeder, Sta. D., Milwaukee.

MONROE COUNTY.

President—C. F. Hansen, Sparta,
Vice President—L. A. Miller, Sparta,
Secretary-Treasurer—C. E. Hitchcock, Sparta.

OCONTO COUNTY.

President—Geo. Beyer, Oconto,
Vice President—Chris Peterson, Oconto Falls,
Secretary-Treasurer—Ellen B. McDonald, Oconto.

ONEIDA COUNTY

President—Geo. H. Dawes, Tomahawk Lake,
Secretary-Treasurer—W. D. Juday, Rhinelander.

OZAUKEE COUNTY.

President—Wm. J. Bichler, Belgium,
Vice President—Chas. J. Nieman, Cedarburg,
Secretary-Treasurer—Richard F. Beger, Fredonia.

PIERCE COUNTY.

President—W. O. Peirce, River Falls,
Vice President—Ed. Campbell, Ellsworth,
Secretary-Treasurer—W. W. Clark, Ellsworth.

PRICE COUNTY.

President—Geo. Lawton, Park Falls,
Vice President—C. A. Peterson, Prentice,
Secretary-Treasurer—Griffith Richards, Phillips.

RACINE COUNTY.

President—James B. Cheesman, Racine,
Vice President—C. Ray McCanna, Burlington,
Secretary-Treasurer—
Asst. Secretary-Treasurer—Arthur E. Skewes, Union Grove.

RICHLAND COUNTY.

President—Harry Bailey, Richland Center,
Vice President—J. A. Thorpe, Tavera,
Secretary-Treasurer—H. L. Post, Sextonville.

ROCK COUNTY.

President—Geo. Hemingway, Hanover,
Vice President—A. G. Russel, Janesville,
Secretary-Treasurer—E. L. Bingham, Milton.

ST. CROIX COUNTY.

President—R. W. Brunner, Hudson,
Vice President—Geo. H. Kruschke, New Richmond,
Secretary—Wm. Schwandt, Deer Park.
Treasurer—Chas. Stiles, Hudson.

SAUK COUNTY.

President—Riley Martiny, Baraboo,
Vice President—Albert Wichern, Baraboo,
Secretary-Treasurer—Geo. W. Davies, North Freedom.

SHAWANO COUNTY.

President—E. S. Hildeman, Belle Plaine,
Vice President—Paul Ashman, Belle Plaine,
Secretary-Treasurer—John Runchke, Shawano.

SHEBOYGAN COUNTY.

President—W. J. Zelm, Plymouth,
Vice President—A. Miller, Plymouth,
Secretary-Treasurer—W. G. Streiber, Elkhardt Lake.

SUPERIOR ORDER.

ASHLAND, BAYFIELD AND DOUGLAS COUNTIES.

President—C. F. Bogenrief, Washburn,
1st Vice President—Roscoe Hosmer, Ashland,
2nd Vice President—E. C. Stevens, Washburn,
Secretary-Treasurer—E. J. Delwiche, Ashland.

TAYLOR COUNTY.

President—John Gamper, Medford,
Vice President—Anton, Drake, Medford,
Secretary-Treasurer—R. A. Kolb, Medford.

VERNON COUNTY.

President—Nels O. Neprud, Coon Valley,
Vice President—Cornelius Sebion, Westby,
Secretary-Treasurer—Walter McClurg, Viroqua.

WALWORTH COUNTY.

President—Harry Dunbar, Elkhorn,
Vice President—Ross H. Ells, Darien,
Secretary-Treasurer—Jesse S. Harris, Delavan.

WASHBURN-BURNETT COUNTIES.

President—H. W. Cadle, Shell Lake,
Vice President—E. H. Allen, Shell Lake,
Secretary-Treasurer—Ed. Rylander, Shell Lake.

WAUKESHA COUNTY.

President—Henry E. Rosenow, Oconomowoc,
Vice President—Adam Graeser, Waukesha,
Secretary-Treasurer—Dr. G. S. Love, Waukesha.

WINNEBAGO COUNTY.

President—A. J. Cross, Allenville,
Vice President—E. Race, Omro,
Secretary-Treasurer—J. M. Humphreys, Winneconne.

WOOD COUNTY.

President—M. H. Jackson, Grand Rapids, R. F. D.,
Vice President—A. P. Bean, Vesper, R. F. D. 1,
Secretary-Treasurer—O. J. Leu, Grand Rapids, R. F. D. 3.

PLAN NOW

To Exhibit Your Seed Grains

at the next

Annual Association Exhibit January, 1915.

Prize Winning Grains to be Shown at the

Panama Pacific Exposition

San Franscisco

1915.

Special liberal premiums to be offered for a large class of sheaf samples of grains and forage crops. Write to the Secretary for special directions on preparing sheaf samples.

BUSINESS MEETING.

The business meeting of the Wisconsin Agricultural Experiment Association was held on Friday, January 9th, 1914, at 2 P. M. Auditorium.

The meeting was called to order by President, J. P. Bonzelet. The minutes of the last meeting were read and adopted, after which the following officers were unanimously elected:

President, J. P. Bonzelet, Eden, Wis.
Vice Pres. Wm. Leonard, Jefferson.
Secretary, R. A. Moore, Madison.
Asst. to the Secy., John J. Garland, Madison.
Treasurer, Noyes Raessler, Beloit.

On motion of the Secretary, honorary membership in the Experiment Association was conferred upon Hon. Chas. D. Rosa, Beloit, and Prof. G. I. Christie, Purdue, Indiana.

The President appointed the following committee on resolutions:

James B. Cheesman, Racine.
C. P. Norgord, Madison.
H. E. Krueger, Beaver Dam.

The following resolutions were reported by the committee, and on motion were unanimously adopted:

RESOLUTIONS.

1—WHEREAS, The work of the Agronomy Department has grown in volume and value so rapidly, and its annual exhibition of seed grains has been declared by experts to be the greatest exhibition in the world,

Be it resolved, That this Association renew its declaration that the present Agronomy building is insufficient to accommodate the work of the Department; we affirm our conviction that the time is ripe for such a permanent housing of the Annual Exhibition that it may be used as part of the regular equipment in teaching, and become a permanent exhibition of Standard Pure Bred Farm products.

WE, THEREFORE, Recommend that the Agronomy Building be enlarged, and completed so as to secure the needed area and light as promptly as possible.

2—THIS ASSOCIATION expresses its full appreciation of the plan of grain inspection as worked out during the year 1913, and hopes the time is near when it will be supplemented by a system of quality certificates secured by sealing with the State brand duly dated and signed.

3—WHEREAS, The extension work executed by the county orders, the bankers' associations, and other bodies within county limits, and that some duplication of work has resulted,

Be it resolved, That this association earnestly recommends the county orders to take such action as will promote greater good fellowship, coöperative unity, and concentration of effort, that the efficiency of each body may be increased and its funds spent to secure the greatest value to the county.

TREASURER'S REPORT.

Mr. Noyes Raessler, treasurer, reported on the financial condition of the Association. His report showed the receipts from all sources except state appropriations from January 11, 1913, to Jan. 9, 1914, to be $1732.69
Disbursements covering same period..... 1024.17

Balance in treasury Jan. 9, 1914..... $ 708.52

R. A. Moore, Secretary, reported on the use and condition of state funds. His report showed the total receipts from state with balance on hand from Jan. 11, 1913, to Jan. 9, 1914.... $6201.20
Disbursements covering same period 2303.72

Balance in State Treasury Jan. 9, 1914..... $3897.58

We the undersigned committee appointed to examine the Treasurer's and Secretary's reports of receipts and disbursement of funds for the past year, beg leave to report that we found them correct.

Signed,

H. N. Longley,
C. P. Norgord,
H. E. Krueger.

Thirteenth annual meeting Jan. 9, 1914. The itemized financial reports are on file for inspection in the office of the Experiment Association.

HONORARY EXHIBIT CLASS ORGANIZED FOR ANNUAL GRAIN SHOW.

As the disseminating and growing of the Pure Bred Seed Grains increases year by year the annual association exhibit has likewise increased until now it surpasses anything of its kind in size and quality. The members who continue to exhibit their grains year after year become very proficient in the preparation and selection of choice samples. So with these fine samples they naturally win the first premiums and carry off a large percentage of the prizes.

This winning of a majority of the blue ribbons by the old experienced exhibitors is sometimes discouraging to the younger and less skilled members, and so many of them lose interest in the grain shows and fail to prepare and enter their grain in future shows.

The main object of the Association show is to stir up interest and create enthusiasm among the members of the Association by means of fair competition, so any thing that would tend to lessen the interest of the majority should be guarded against. To remedy this condition which has arisen to some extent in the Association's show, the officers and committees have decided to organize a class which will include those who in the past have been most successful. The most successful exhibitors will welcome such a class where there will be the closest competition and consequently more honor in taking a blue ribbon. This class will be known as the "Honorary Class," and only those members who have taken 1st prizes in certain classes at past or future shows will be eligible to exhibit in this class.

Competition in this Honorary Class is sure to be very keen and it is expected that every member who is entitled to exhibit in this class will take advantage of his opportunity.

The rules governing this Honorary Class will be as follows: All exhibitors at the Exp. Assoc. Annual Grain Show who have ever won a first premium in the following classes—Oats; Barley; Corn: Wis. No. 1, No. 7, No. 8, No. 12; are placed in the Honorary Class. They may compete in this class only. An exhibitor winning a 1st on one variety of small grain in a given class, shall

be eligible to exhibit in the Honorary Class for all the varieties of that class. In other classes of grains where the Honorary Class has not been organized they may compete in the general class as heretofore.

Honorary Class—

Class AA Oats.
1 Best Peck Pedigree No. 1 oats.
2 Best Peck Pedigree No. 5 oats.

Class BB Barley.
1 Best Peck Pedigree Barley.
2 Best Peck any other variety Barley not a pedigree strain.

Class CC Corn.
1 Best 10 ears No. 1, Clarks Yellow Dent.
2 Best 10 ears No. 7, Silver King.
3 Best 10 ears No. 8, Early Yellow Dent.
4 Best 10 ears No. 12, Golden Glow.

Those growers who are eligible to exhibit in the Honorary Classes are as follows:

Class AA Oats.
J. P. Bonzelet, Eden,
E. T. Briggs, Fond du Lac,
E. L. Dreger, Madison,
V. G. Ellis, Evansville,
O. C. Feathers, Manawa,
F. P. Grebe, Fox Lake,
J. H. Hendricks, Campbellsport,
Chas. Howitt, Randolph,
A. J. Klein, Lomira,
H. F. Kramer, Bloomer,
H. E. Marthaler, Beaver Dam,
Gust. Parsh, Wausau,
Noyes Raessler, Beloit,
J. H. Sattler, Rosendale,
Otto Toepfer, Madison,
H. P. West, Ripon,
R. N. West, Ripon.

Class BB Barley.
Anton Bohl, Beaver Dam,
J. P. Bonzelet, Eden,
E. T. Briggs, Fond du Lac,
Chas. Howitt. Randolph,
O. R. Jones, Beaver Dam,
H. E. Krueger, Beaver Dam,
J. R. Thorpe, Tavera,
Otto Toepfer, Madison.
Chester Wilcox, McMillan,
R. N. West, Ripon.

Class CC Corn.
Wis. No. 1 Clarks Yellow Dent.
Andrew Finsness, Stoughton,
F. P. Grebe, Fox Lake,
Chas. H. Howitt, Randolph,
V. W. Post, Sextonville,
Renk Bros., Sun Prairie,
J. R. Thorpe, Tavera.

Wis. No. 7 Silver King.
Ike Blook, Mukwonago
F. P. Grebe, Fox Lake,
F. B. Joos, Alma Center,
H. N. Longley, Dousman,
S. P. Markle, La Crosse,
N. Raessler, Beloit,
H. E. Roesnow, Oconomowoc,
J. R. Thorpe, Tavera.

Wis. No. 8, Early Yellow Dent.
O. R. Frauenheim, Random Lake,
F. P. Grebe, Fox Lake,
Chas. Howitt, Randolph,
H. W. Meekin. Fond du Lac
N. Raessler, Beloit,

Wis. No. 12, Golden Glow.
F. P. Grebe, Fox Lake,
Chas. Howitt, Randolph,
N. Raessler, Beloit,
John Van Loon, La Crosse,

THE NATIONAL CORN SHOW.

L. F. GRABER.

No display of farm crops has ever been held which surpassed the Sixth National Corn Exposition which took place at Dallas, Texas, Feb. 10 to 24, 1914. The educational exhibits from thirty-seven states together with an immense display from the United States Department of Agriculture illustrating the progress and development of scientific agriculture in all parts of this country constituted the most important features of the Exposition. The National Corn Association is entirely an educational institution. What the International Live Stock Show stands for in the way of developing more and better live stock the National Corn Show represents for the production of bigger and better crops. To be sure the "Corn Show" does not mean one gigantic exposition of corn and corn only. It includes all farm crops, and everything educational in reference to crop production and soil fertility.

Naturally one of the attractive and exciting features of the show was the seed and forage contest for honors and prizes by the various states and Canada. Never before in the history of the Show was there such keen competition.

The competitive exhibits were most numerous and the judging lasted over a week. The prizes were exceedingly liberal including cash, farm implements of all descriptions ranging from road graders to sewing machines, ladies' evening gowns, oriental screens, etc. The honors were quite well divided among the several states. Wisconsin lived up to her old time reputation in carrying off world honors on six row barley grown by Hon. H. E. Krueger of Beaver Dam. Mr. Krueger has never been defeated with his pure bred six row barley in six national and international contests. Wisconsin also secured the highest honors on buckwheat and soy beans. Montana won several prizes. It is true that in the dry areas of the western states where irrigation is practiced the farmers have somewhat the advantage of those of the humid areas of the east, central and northern states in the way of producing show samples of grain. Irrigation farmers have moisture conditions under their control and need not con-

The Pure Bred Grain Exhibit of the Agricultural College and the Experiment Association at the National Corn Show, Dallas, Texas, Jan. 1914.

tend with rains at harvest time which are so damaging to the color of the threshed grain.

Indiana had the world's championship 10 ears of corn—a wonderful sample of Johnson County White, exhibited by Jas. Steinbrook, Franklin, Indiana, who won the Indiana trophy valued at $1000. Some critics claimed that the sample was too rough but the maturity of the ears was excellent.

Illinois won highest honors and the Kellog Trophy valued at $1000.00 for best single ear on a well nigh perfect ear of Boone County White, grown by Henry Hoppler, a short course student of Illinois College of Agriculture. The best bushel of corn, a very uniform, true to type lot of Johnson County White Corn, of the show was exhibited by G. L. Kerlin of Franklin, Ind., on which he won a Ford automobile. Wisconsin had the Championship ten ears of corn in the northern zone which includes competition with the five northern states, Michigan, Minnesota, North and South Dakota and Wisconsin. The sample was Clarke's Yellow Dent grown by J. R. Thorpe of Tavera.

Montana captured the world championship honors on wheat with a wonderful sample of Marquis Spring Wheat grown by J. P. Nash, Clyde Park, Mont., which easily surpassed the Canadian sample in the final contest.

A very lively contest was in evidence in the oat classes to maintain in the United States the famous Colorado Oat Trophy valued at $1500. This was secured for the National Corn Exposition from the state of Colorado for the best peck of oats exhibited at the show and was to become the property of the state or country winning same the greatest number of times in five years. Last year Canada won this trophy for the second time and succeeded in obtaining ownership of the trophy by winning world's sweepstakes honors at this year's show. The peck of oats was truly a wonderful sample for its plumpness, color and weight of 50 lbs. per bushel.

THE WISCONSIN EXHIBIT.

One of the most distinctive features of Wisconsin's exhibit at the National Corn Show was the complete demonstration of the pure bred seed business which has been built up among Wisconsin farmers through the organization of the Wisconsin Agricultural Experiment Association. The 1600 members of the organ-

ization have combined in their efforts to drive out scrub grains in Wisconsin and replace them with the higher yielding and better quality pure bred strains produced by the College of Agriculture after 10 to 12 years of careful scientific breeding and selection. The wide demand for Wisconsin Pure Bred Grains for seed purposes not only in Wisconsin but from other states and foreign countries has resulted in a highly profitable industry among Wisconsin farmers in the way of supplying this demand for pure bred seeds. The exhibit also portrayed the experimental and demonstrational work of the Agricultural College.

THE MISSOURI EXHIBIT.

Missouri's demonstration showing the results of 21 years of experimentation on the effect of various systems of cropping was exceedingly interesting. For example wheat grown continuously without manure on same soil for 21 years dropped in yield from 28 bu. per acre to 13 bu. per acre. With corn under similar conditions the yield gradually declined from 34 to 12 bu. per acre. With a system of rotation such as corn, wheat and clover, and applying manure every third year the yield increased in 21 years from 40 to 72 bu. per acre. This well illustrates the importance of live stock farming and crop rotation as a permanent system of agriculture, a valuable lesson to the one crop southern farmer who does not fully appreciate the value of live stock in reference to soil fertility.

An interesting feature of the Indiana exhibit was the results of breeding for a suckering and nonsuckering strain of corn. After eight years of breeding they were able to develop a strain in which only 8.2% of plants suckered, and a strain where nearly 25% of plants suckered. It is surprising to note the yielding capacity of the two strains was practically the same.

An essential lesson of the Illinois demonstration was the exhibit of their corn breeding work in the way of producing high and low protein strains, high and low oil strains, and high and low ear strains of corn. This has been a wonderful line of work showing the vast possibilities of corn breeding.

Nebraska featured their work on the moisture requirements of corn showing in general that the conditions which would tend to produce the greatest evaporation from the soil also produce the greatest transpiration and use of moisture by the corn plant. It

was also shown that the richer the soil the less was the amount of water required to produce a given yield.

In general the exhibits covered the entire field of agriculture including crop and live stock production.

WISCONSIN WINNINGS AT NATIONAL CORN SHOW, FEB. 1914.

1. SIX ROW BARLEY—
   World and Trophy Sweepstake's Championship by H. E. Krueger, Beaver Dam, Wis. Mr. Krueger has captured for the fifth time the two Wisconsin Barley Trophies (valued at $300) and now is permanent owner of them.
   Prize—Ribbon.
   Northern Zone Sweepstakes (on six row barley) by H. B. Marthaler, Beaver Dam, Wis.
   Prize—Ribbon.

2. TWO ROW BARLEY—
   Northern Zone Sweepstakes, H. B. Marthaler, Beaver Dam, Wis.
   Prize—Ribbon.

3. SHEAF BARLEY—
   Northern Zone Sweepstakes, J. R. Thorpe, Tavera, Wis.
   Prize—Ribbon.

4. SHEAF OATS—
   Northern Zone Sweepstakes and Reserve World's Championship, J. R. Thorpe, Tavera, Wis.
   Prize—Ribbon.

5. CORN—
   Grand Championship Northern Zone on 10 Ears Y. Dent, J. R. Thorpe, Tavera, Wis.
   Prize—Ribbon and Van Bront Grain Drill.

6. SINGLE AND 10 EARS FLINT CORN—
   Northern Zone Sweepstakes, Joe Hans, Jefferson, Wis.
   Prize—Ribbon.

7. PECK WINTER WHEAT—
   Northern Zone Sweepstakes, H. P. West, Ripon, Wis.
   Prize—Ribbon.

8. BUCKWHEAT—
   World's Championship, H. P. West, Beaver Dam, Wis.
   Prize—Ribbon and 12 Gal. Sanitary Churn.

9. SOY BEANS—
   World's Championship, H. P. West, Beaver Dam, Wis.
   Prize—Ribbon and Rocking Chair.

10. BUTTER—(Dairy Dept. Corn Show)
    Grand Championship of Show. Peder Kristianson, Cushing, Wis.
    Prize—Large Banner.

WORLD CLASSES.

RYE—
2nd. Jno. Hans, Jefferson.
Prize—Standard Incubator.
3d. H. E. Krueger, Beaver Dam.
Prize—No-Sag Gate.
4th. Joe Hans, Jefferson.
5th. H. P. West, Ripon.

SHEAF RYE—
2nd. H. E. Krueger, Beaver Dam.

BUCKWHEAT—
1st. H. P. West, Ripon.
3rd. H. E. Krueger, Beaver Dam.
5th. Anton Bohl, Beaver Dam.

ALSIKE CLOVER—
3rd. H. P. West, Ripon, Wis.
Prize—Separator.
4th. W. L. Illian, Adell.
Prize—Separator.
5th. A. C. Ellickson, Arlington.

SOY BEANS—
1st. H. P. West, Ripon, Wis.
5th. R. W. Ward, Ft. Atkinson, Wis.

FIELD BEANS—
3rd. J. G. Jones, Beaver Dam.

A list of the most important winnings of the various states is as follows:

CORN—
Best Single ear—
Illinois—Henry Hoppler, Spring Valley.
Best Ten Ears—
Indiana—Jno. Steinbroak, Franklin.
Best Bushel of Corn—
Indiana—G. L. Kerlin, Franklin.
Best 10 ears of Flint Corn—
Wisconsin—Joe Hans, Jefferson.
Best Corn of Northern Zone—
Wisconsin—J. R. Thorpe, Tavera.

WHEAT—
World Championship Peck of Wheat. J. P. Nash, Clyde Park, Mont.
World Championship Sheaf Wheat. F. C. Sumner, Clyde Park, Mont.

BARLEY—
World's Trophy Sweepstakes on Six Row Barley. H. E. Krueger, Beaver Dam.

CHAMPIONSHIP TWO ROW BARLEY—
F. C. Sumner, Clyde Park.

SHEAF BARLEY—
World Championship. Fred Busher, Ritzville, Wash.

RYE—
First, Peter Swanson, Alvarado, Minn.
Second, Jno. Hans, Jefferson, Wis.
Third, H. E. Krueger, Beaver Dam, Wis.
Fourth, Joe Hans, Jefferson, Wis.
Fifth, H. P. West, Ripon, Wis.

WINNINGS BY STATES.

Red Clover Seed—1st Mo., 2nd Iowa, 3d Idaho, 4th and 5th Mo.
Alsike Clover Seed—1st Idaho, 2nd Minn., 3d Wis., 4th Wis., 5th Wis.
Alsike Clover Sheaf—1st Wash., 2d Mont., 3d Iowa.
Red Clover Sheaf—1st Mont., 2nd Mont., 3d Iowa.
Soy Beans—1st Wisconsin, 2nd Ky., 3d Ky., 4th Mich., 5th Wis.

OATS—
Canada, World Championship.

BEANS—
1st Michigan, 2nd Minnesota, 3d Wisconsin, 4th S. Carolina, 5th Michigan.

BEST SHEAF OF RYE—
1st S. Carolina, 2nd Wisconsin, 3d Virginia.

BEST PECK FLAX—
1st Minnesota, 2nd N. Dakota, 3d Minnesota, 4th S. Dakota, 5th S. Dakota.

SHEAF FLAX—
1st Montana, 2nd N. Dakota. 3d Minnesota.

BUCKWHEAT—
1st Wisconsin, 2nd Virginia, 3d Wisconsin, 4th Minnesota, 5th Wisconsin.

ALFALFA SEED—
1st Washington, 2nd Idaho, 3d Montana, 4th Minnesota, 5th Montana.

ALFALFA SHEAF—
1st Virginia, 2nd Indiana, 3d Montana.

TIMOTHY SEED—
1st S. Dakota, 2nd Montana, 3d Montana, 4th Idaho, 5th Minnesota.

TIMOTHY SHEAF—
1st Montana, 2nd and 3d Iowa.

HIGH YIELDING EAR CONTEST

Who Breeds for Yields as well as Looks?

A new feature to be tried out at this next grain show will be the highest producing ear contest. Every member is allowed to enter in this contest a single ear which he thinks to be his highest yielding one. Each ear for the contest is to be on exhibition at the show, after which the Association will take charge of them and in the spring have them planted at the station farm.

An equal number of kernels will be shelled off each ear and planted in a single row in a special field. At harvest time all will be husked out and the yield determined by weight. Ears will be so numbered that no one will know whose row of corn is whose or who has won until announced at the next annual grain show.

The part of ear not planted will be preserved and exhibited at the next show with its rate of yield.

Growers who have thought that too much attention and prominence has been given to the fancy points and not enough to the producing power of the ear should welcome this contest. Every corn breeder who has been trying to breed up and increase his yield will want to know how his corn compares with what the other breeders have been raising.

Liberal premiums will be offered to the prize winners and the advertising feature cannot be overlooked.

Owing to the limited amount of space at the station farm the contest will have to be limited this year to the Wis. No. 12 or Golden Glow. Each ear will be planted and cultivated under the same conditions as near as possible, guard rows will be planted on sides of fields to give all an equal chance. Further information will be given in the premium list which is sent out in ample time before the show.

The Thirteenth Annual Pure Bred Grain Show of the Experiment Association surpassed all previous shows in quality and size.

THE 1914 EXHIBIT OF GRAINS.

By Prof. A. L. Stone, Judge of Exhibits.

The exhibit of the Association is improving in quality annually but the number of exhibitors does not increase as rapidly as the number and size of the premiums would lead one to expect. This is probably due to a general misunderstanding on the part of many members of the Association who have come to feel that certain exhibitors would win all the premiums any way so there was no use in going to the expense of sending or bringing samples only to see some one else carry off all the premiums. Up to the last year or two there has been a greater or less monopoly in the premium winning due to the better knowledge possessed by certain exhibitors as to the best way to prepare samples for exhibition and that they had made use of the information. There is no reason why any member of the Association may not win some of the best premiums if he will only inform himself as to what constitutes a good sample in each class and prepare it accordingly. In fact the premiums were more widely distributed this year than usual showing that more of the members have learned the secret of the successful preparation of samples. That others may know the necessary qualifications for winning samples a few general directions are being given herewith.

Corn—A ten or fifty ear sample should be uniform as possible in length, shape of ear, color, indentation and shape of kernels. Be extremely careful to include no ears having kernels of another color or the wrong color of cob. Yellow corn must have red cobs and white corn white cobs. Also have the ears sound, well matured and showing no signs of injury or disease. Tips and butts should be well filled, have rows running straight out, and have as few irregularly shaped kernels as possible.

A single ear should be selected for the same characteristics but with even greater care. Be sure to have diameter and length of the ear in proportion. The ear should be neither too long nor too short for its circumference. An ear 7 inches in circumference should be about 9 inches long, etc.

THRESHED GRAINS.

Requirements for a winning sample of small grain are as follows:

1. Kernels. Uniform in size and the largest which can be separated from the bulk lot. The sample can be prepared by running it through a good fanning mill several times until the smaller kernels have been screened out.

2. Purity. There should be no other kind of grain mixed with the sample. Probably more good samples have been eliminated in close competition because of such a mixture than for any other reason. To be sure that there are no kernels of other grain in it it may be necessary to hand pick it.

Extreme care should also be taken to see that all weed seeds are removed especially those of noxious character. Many samples have been rejected on this account. The competition is usually very close and one or two foreign grains or weed seeds may cause the rejection of an otherwise prize winning sample.

3. Color. The color in wheat should be as dark red as the kind of wheat will allow. Spring and hard winter wheats are usually darker in color than red winter wheat and always should be. Dark flinty color in wheat is an indication of good milling quality. To secure such color do not allow the wheat to become over ripe or expose it to the weather. Color in barley should be a light yellow and the sample should have no kernels with a bluish color.

Oats should be white with no weathered or other colored oats. If a class for yellow oats is given the color should be uniform as in white oats.

Rye should possess a comparatively dark but uniform color.

Quality. There should be no cracked or broken kernels, none which has started to grow, and no smuty or musty odor. Sample should consist of plump well matured kernels, not rubbed or chipped to expose the endosperms or meats.

SHEAF GRAINS.

The rules of the Association call for a sheaf of no particular size, but the rules of the national corn and grain association require a sheaf four inches in diameter just below the heads. Sheaves should be that size for satisfactory show samples.

Grain for these sheaves should be cut by hand just when the

grain is well ripened and before discolored by dew or rain. If bound up by the binder much of the straw is broken and a prize winning sheaf should have straight unbroken straw of good color. A judge is also partial to a sheaf tastefully put up and with straws stripped. Care should be used in drying and the straw allowed to dry thoroughly before binding up into a sheaf or it is apt to discolor inside. It goes without saying that the heads should be well filled with plump, mature grain.

For both threshed and sheaf samples it is best to take some of the grain under cover to dry as soon as ripe and cut to obviate any chance of discoloration.

GRASS AND CLOVER SEEDS.

Seeds should be large in size and uniform for the variety. The larger, heavier seeds indicate greater vigor, hence a better germination and a larger crop.

The color of clover seeds should be dark purple in red, a very dark green almost black in alsike, and orange red in white clovers. The higher the percentage of dark colored seeds in the sample the better the quality, other things being equal.

In alfalfa a golden yellow color is typical. Timothy seed should not have the hulls removed by threshing. It hurts the keeping quality and causes the seed to lose its vitality much more rapidly.

All grass and clover seeds should be as free from weed seeds as possible and otherwise well cleaned.

FORAGE PLANTS IN SHEAVES.

The principal consideration in preparing sheaf samples of forage plants is to get the plants harvested at the proper time for each kind of plant, and to get them cured without heating and discoloration. A fresh green color is desirable in all grasses, clover, alfalfa, soy beans, etc. With pod bearing plants like soy beans the best forage is obtained when the pods are just nicely formed. The plants should be cured in such a way as to retain the leaves.

If these rules are observed there is no reason why any one may not have a prize winning sample. We ought to have twice the number of samples exhibited another year and it is hoped that

some of those who have never exhibited before will plan to exhibit and by observing these directions give the older exhibitors the surprise of their lives.

PREMIUM AWARDS

At Annual Pure Bred Grain Show held by the

WISCONSIN AGRICULTURAL EXPERIMENT ASSOCIATION

Jan. 9–10, 1914.

College of Agriculture, Madison, Wisconsin.

Peck Wisconsin Pedigree Oats.

1st.	H. P. West, Ripon, L. L. Olds Seed Co. gave	$10 00
2nd.	N. R. Raessler, Beloit	3 00
3rd.	O. R. Jones, Beaver Dam	2 00
4th.	J. G. Jones, Beaver Dam	1 00
5th.	J. R. Thorpe, Tavera	50

Peck Swedish Select Oats.

1st.	H. P. West, Ripon	Cleland Expert Grain Cleaner given
2nd.	J. R. Thorpe, Tavera	$3 00
3rd.	N. R. Raessler, Beloit	2 00
4th.	A. J. Warner, Whitewater	1 00
5th.	O. R. Jones, Beaver Dam	50

Peck any other Variety Oats.

1st.	A. J. Klein, Lomira	$4 00
2nd.	N. R. Raessler, Beloit	3 00
3rd.	H. E. Krueger, Beaver Dam	2 00
4th.	H. P. West, Ripon	1 00
5th.	C. A. Koll, Eau Claire	50

Sheaf Swedish Select Oats.

1st.	Swartz Bros, Waukesha	$4 00
2nd.	P. A. Paulson, Hudson	3 00
3rd.	Joe Hans, Jefferson	2 00
4th.	Theo. Ward, Fort Atkinson	1 00
5th.	T. C. Wilsie, Brandon	50

Sheaf Oats any Variety.

1st.	J. R. Thorpe, Tavera	$4 00
2nd.	Peter Dengel, La Crosse	3 00
3rd.	N. R. Raessler, Beloit	2 00
4th.	C. H. Howitt, Randolph	1 00
5th.	T. C. Wilsie, Brandon	50

PECK WISCONSIN PEDIGREE BARLEY.

1st.	H. E. Krueger, Beaver Dam, L. L. Olds Seed Co. gave	$10 00
2nd.	H. P. West, Ripon	3 00
3rd.	Anton Bohl, Beaver Dam	2 00
4th.	J. G. Jones, Beaver Dam	1 00
5th.	J. J. Ihrig, Oshkosh	50

PECK ODERBRUCKER BARLEY.

1st.	H. E. Krueger, Beaver Dam	$4 00
2nd.	H. P. West, Ripon	3 00
3rd.	R. W. Ward, Fort Atkinson	2 00
4th.	J. G. Jones, Beaver Dam	1 00
5th.	O. R. Jones, Beaver Dam	50

PECK ANY OTHER VARIETY BARLEY.

1st.	Chester Wilcox, McMillan	$4 00
2nd.	Anton Bohl, Beaver Dam	3 00
3rd.	Theo. Ward, Fort Atkinson	2 00
4th.	Tim O'Neil, Kilbourn	1 00
5th.	Noyes Raessler, Beloit	50

SHEAF PEDIGREE BARLEY.

1st.	J. R. Thorpe, Tavera	$4 00
2nd.	Peter Dengel, La Crosse	3 00
3rd.	T. C. Wilsie, Brandon	2 00
4th.	Theo. Ward, Fort Atkinson	1 00

SHEAF ODERBRUCKER BARLEY.

1st.	J. R. Thorpe, Tavera	$4 00
2nd.	Stanley Sebion, Westby	3 00
3rd.	Robert Ward, Fort Atkinson	2 00
4th.	N. R. Raessler, Beloit	1 00
5th.	Theo. Ward, Fort Atkinson	50

SHEAF ANY OTHER VARIETY BARLEY.

1st.	Robert Ward, Fort Atkinson	$4 00
2nd.	Louis H. Miller, Fond du Lac	3 00
3rd.	Theo. Ward, Fort Atkinson	2 00
4th.	F. P. Grebe, Fox Lake	1 00
5th.	T. C. Wilsie, Brandon	50

CORN, 10 EARS SILVER KING, WISCONSIN NO. 7.

1st.	S. P. Markle, La Crosse	I. H. C. Co., gave Feed Grinder
2nd.	J. R. Thorpe, Tavera	$3 00
3rd.	Theo. Gronna, Waterville, Ia.	2 00
4th.	N. R. Raessler, Beloit	1 00
5th.	H. T. Draheim, Gotham	50

Corn, 10 Ears Wisconsin No. 8.

1st.	Chas. Howitt, Randolph	Johnson Field Mfg. Co., gave a Fanning Mill
2nd.	John Van Loon, La Crosse	$3 00
3rd.	N. R. Raessler, Beloit	2 00
4th.	H. P. West, Ripon	1 00
5th.	J. R. Thorpe, Tavera	50

Corn, 10 Ears Golden Glow.

1st.	N. R. Raessler, Beloit	Parlin & Orendorff gave a Corn Planter
2nd.	Jippa Wielinga, Midway	$3 00
3rd.	J. R. Thorpe, Tavera	2 00
4th.	Louis Hansen, Eleva	1 00
5th.	Wm. Wichern, Baraboo	50

Corn, 10 Ears Clarks Yellow Dent.

1st.	J. R. Thorpe, Tavera	$4 00
2nd.	H. T. Draheim, Gotham	3 00
3rd.	N. R. Raessler, Beloit	2 00
4th.	R. W. Ward, Fort Atkinson	1 00

Corn, 10 Ears North Star Yellow Dent.

1st.	N. R. Raessler, Beloit	$4 00
2nd.	A. Bohl, Beaver Dam	3 00

Corn, 10 Ears Yellow Flint.

1st.	John Hans, Jefferson	$4 00
2nd.	Joe Hans, Jefferson	3 00
3rd.	H. P. West, Ripon	2 00
4th.	A. Bohl, Beaver Dam	1 00
5th.	H. Marthaler, Beaver Dam	50

Corn, 10 Ears, White Flint.

1st.	Geo. H. Leonard, Jefferson	$4 00
2nd.	Anton Bohl, Beaver Dam	3 00
3rd.	H. P. West, Ripon	2 00
4th.	Wm. R. Leonard, Jefferson	1 00
5th.	A. O. Popp, Jefferson	50

Corn, 10 Ears, Any Other Variety.

1st.	J. R. Thorpe, Tavera	$4 00
2nd.	N. R. Raessler, Beloit	3 00
3rd.	A. O. Popp, Jefferson	2 00
4th.	John Van Loon, La Crosse	1 00
5th.	Ora J. Green, Oregon	50

CORN, BEST SINGLE EAR, ANY VARIETY.

1st.	J. R. Thorpe, Tavera....H. E. Krueger gave $15 worth pedigree seed oats	
2nd.	S. P. Markle, La Crosse	$3 00
3rd.	N. R. Raessler, Beloit	2 00
4th.	H. L. Post, Sextonville	1 00
5th.	J. W. Leverich, Sparta	50

CORN, BEST 50 EARS SILVER KING.

1st.	S. P. Markle, La Crosse.....J. I. Case Co., gave Walking Plow	
2nd.	J. R. Thorpe, Tavera	$6 00
3rd.	N. R. Raessler, Beloit	3 00
4th.	Burton Peck, Spring Green	2 00
5th.	A. Bohl, Beaver Dam	1 00

CORN, BEST 50 EARS ANY WISCONSIN STANDARD YELLOW DENT.

1st.	Jippa Wielinga, Midway.....Madison Plow Co., gave corn planter	
2nd.	N. R. Raessler, Beloit	$6 00
3rd.	J. R. Thorpe, Tavera	3 00
4th.	A. J. Warner, Whitewater	2 00
5th.	A. J. Brunker, Ridgeway	1 00

PECK, MEDIUM RED CLOVER SEED.

1st.	W. L. Illian, Adell	$4 00
2nd.	J. L. Krause, Beaver Dam	3 00
3rd.	H. P. West, Ripon	2 00
4th.	C. W. Bacon, Burke	1 00
5th.	John Wagner, Middleton	50

PECK, MAMMOTH CLOVER SEED.

1st.	H. P. West, Ripon	$4 00
2nd.	Stanley Sebion, Westby	3 00

PECK, ALSIKE CLOVER SEED.

1st.	H. P. West, Ripon	$4 00
2nd.	W. L. Illian, Adell	3 00
3rd.	A. C. Ellickson, Arlington	2 00
4th.	H. E. Krueger, Beaver Dam	1 00
5th.	Wm. Leonard, Jefferson	50

PECK, BLACK SOY BEANS.

1st.	H. E. Krueger, Beaver Dam	$3 00
2nd.	J. G. Jones, Beaver Dam	2 00
3rd.	H. P. West, Ripon	1 00

PECK GREEN SOY BEANS.

1st.	H. P. West, Ripon	$3 00
2nd.	N. R. Raessler, Beloit	2 00

PECK YELLOW SOY BEANS.

1st.	O. R. Jones, Beaver Dam	$3 00
2nd.	R. W. Ward, Fort Atkinson	2 00
3rd.	H. E. Krueger, Beaver Dam	1 00
4th.	J. G. Jones, Beaver Dam	50

PECK BROWN SOY BEANS.

1st.	H. E. Krueger, Beaver Dam	$3 00
2nd.	Theo. Ward, Fort Atkinson	2 00

SHEAF OF SOY BEANS.

1st.	N. R. Raessler, Beloit	$3 00
2nd.	R. W. Ward, Fort Atkinson	2 00
3rd.	Theo. Ward, Fort Atkinson	1 00
4th.	J. G. Jones, Beaver Dam	50

BEST PECK ALFALFA SEED.

1st.	H. E. Krueger, Beaver Dam	3 00
2nd.	H. P. West, Ripon	3 00

ALFALFA HAY.

1st.	W. L. Illian, Adell.....Alfalfa Order gave	$10 00
2nd.	P. A. Paulson, Hudson	5 00
3rd.	N. R. Raessler, Beloit	2 00
4th.	F. J. Lindley, Fox Lake	1 00
5th.	Stanley Sebion, Westby	50

WISCONSIN PEDIGREE WINTER RYE.

1st.	H. P. West, Ripon...J. P. Bonzelet gave $15 worth pure bred seeds	
2nd.	John Hans, Jefferson	$2 00
3rd.	Fred Amacher, Stetsonville	1 00
4th.	N. R. Raessler, Beloit	50

ANY OTHER VARIETY RYE.

1st.	H. P. West	$3 00
2nd.	Joe Hans, Jefferson	2 00
3rd.	H. E. Krueger, Beaver Dam	1 00
4th.	N. R. Raessler, Beloit	50

TIMOTHY SEED.

1st.	F. P. Grebe, Fox Lake.....Albert Dickinson Seed Co. gave	$15 00
2nd.	H. P. West, Ripon.....Albert Dickinson Seed Co. gave	10 00
3rd.	A. C. Ellickson, Arlington	1 00
4th.	W. L. Illian, Adell	50

Silver Hull Buckwheat.

1st.	H. P. West, Ripon	$3 00
2nd.	H. E. Krueger, Beaver Dam	2 00
3rd.	A. Bohl, Beaver Dam	1 00
4th.	C. W. Bacon, Burke	50

Japanese Buckwheat.

1st.	H. P. West, Ripon	$3 00
2nd.	H. E. Krueger, Beaver Dam	2 00

Winter Wheat.

1st.	H. E. Krueger, Beaver Dam.....L. L. Olds Seed Co. gave	$5 00
2nd.	H. P. West, Ripon	2 00
3rd.	N. R. Raessler, Beloit	1 00
4th.	Andre Abidon, Niagara	50

Spring Wheat.

1st.	N. R. Raessler, Beloit	$3 00
2nd.	J. T. Pritchard, Eau Claire	2 00
3rd.	H. E. Krueger, Beaver Dam	1 00
4th.	H. P. West, Ripon	50

Sheaf Winter Wheat.

1st.	N. R. Raessler, Beloit	$3 00
2nd.	Louis Groth, Beaver Dam	2 00
3rd.	Theo. Ward, Fort Atkinson	1 00
4th.	A. O. Popp, Jefferson	50

Sheaf Spring Wheat.

1st.	T. C. Wilsie, Brandon	$3 00
2nd.	P. A. Paulson, Hudson	2 00
3rd.	Joe Hans, Jefferson	1 00
4th.	John Hans, Jefferson	50

Navy Beans, 3 Single Stalks.

1st.	F. P. Grebe, Fox Lake	$3 00
2nd.	Chas. Howitt, Randolph	2 00
3rd.	N. R. Raessler, Beloit	1 00
4th.	W. R. Leonard, Jefferson	50

Navy Beans, Threshed.

1st.	J. G. Jones, Beaver Dam	$3 00
2nd.	N. R. Raessler, Beloit	2 00
3rd.	W. R. Leonard, Jefferson	1 00

WINNERS OF SPECIAL AWARDS AND TROPHIES.

N. Raessler, Beloit, Berkshire pig, given to person taking greatest amount of cash as prizes on pure bred corn, by Fred Pabst, Oconomowoc, Wis.

H. P. West, Ripon, Buggy. Given to person winning the greatest number of first prizes, by Montgomery Ward & Co., Chicago.

1st Rock County Order, $20. Greatest and best display threshed and sheaf grains.

2nd Jefferson County Order, $10.

S. P. Markle, La Crosse, Silver Trophy. Given for best 10 ears Wisconsin No. 7 corn by the Chamber of Commerce, Milwaukee, Wis.

H. P. West, Ripon, Silver trophy. Given for best sample Wisconsin Pedigree oats by the Chamber of Commerce, Milwaukee.

H. P. West, Ripon, Silver trophy. Given for best sample winter rye by Chamber of Commerce, Milwaukee.

J. R. Thorpe, Tavera, silver trophy. Given for best bundle Oderbrucker barley by Chamber of Commerce, Milwaukee.

H. E. Krueger, Beaver Dam, silver trophy. Given for best peck of pedigree barley by Wisconsin Farmer, Madison.

MEMBERSHIP LIST, 1914

HONORARY MEMBERS

Ames, W. L.....Oregon
Babcock, Dr. S. M.....Madison
Bull, Prof. C. P.....
.....St. Anthony Park, Minn.
Cary, Prof. C. P.....Madison
Cheesman, Jas. B.....Racine
Christie, Prof. G. I.....Purdue, Ind.
Emery, Prof. J. Q.....Madison
Harvey, Prof. L. D....Menominie, Wis.
Hays, W. M.....Washington, D. C.
Henry, Dr. W. A....Wallingford, Conn.
Karel, Hon. L. A.....Kewaunee
Lehmann, Mrs. Eva.....Woodland
Lehner, Philip.....Princeton
McCormick, G. W....Menominee, Mich.
McKerrow, Supt. Geo.....Pewaukee
Newman, Geo.....Mobile, Alabama
Philips, A. J.....West Salem
Renk, Katharine.....Boise City, Idaho
Rusa, Hon. Chas. D.....Beloit
Russell, Dean H. L.....Madison
Schauer, Hon. A. G.....Kewaunee
Toole, William.....Baraboo
True, Hon. John M.....Madison
Utsunomiya, S. T.....
.....Sapporo, Hokkaido, Japan
Utter, Delbert.....Lake Beulah
Wojta, Prof. J. F.....Madison

MEMBERSHIP BY COUNTIES.

ADAMS COUNTY.

Atcherson, Otto.....Plainville
Cook, E. D.....Plainville
Crothers, Floyd.....Kilbourn
Fairbank, L. B.....Plainfield
Johnson, Billie.....Strongs Prairie
Prochaska, Geo. M.....Friendship
Weymouth, M. H.....Plainfield

ASHLAND COUNTY.

Anderson, F. O....Ashland, R. F. D. 1
Delwiche, E. J.....Ashland
Johnson, L. M.....Ashland
Peterson, Andrew, Jr.....Ashland
Werder, Theo.....Ashland

BARRON COUNTY.

Adams, C. L.....Rice Lake
Bartlett, R. W.....Barron
Bartlett, Wm.....Barron
Erdahl, M. N.....Rice Lake
Huser, F. E.....Cumberland
Muerman, F.....Chetek
Ness, Arthur.....Cumberland
Ness, Einar.....Cumberland, R. F. D. 1
Nichols, W. J.....Chetek
Nord, J. K.....Rice Lake
Nordby, Edw.....Barron, R. F. D. 2
Plenty, R. J.....Rice Lake
Rasmussen, D. R.....Rice Lake
Rauchenstein, John.....Rice Lake
Svacina, Jacob, Jr.....Rice Lake
Wagner, A. W.....Almena

BAYFIELD COUNTY.

Anderson, J.....Grand View
Blakely, A. J.....Mason
Clark, Lee.....Herbster
Morey, Reuben.....Cable
Yderstad, Thoralf.....Mason

BROWN COUNTY.

Anderson, Sol.....Green Bay
Dillon, James H.....De Pere
Nies, Peter.....Morr'son
Roeckel, J. P.....Lark
Roffers, J. H..West De Pere, R. F. D. 3
Schmidt, Arthur.....De Pere
Schmidt, Harold.....Wrightstown
Van Den Heuvel, Frank..West De Pere

MEMBERSHIP, 1914—Continued.

BUFFALO COUNTY.

Accola, I. E.....Alma
Biederbach, W. J.....Mondovi
Engel, G. H.....Fountain City
Fetting, Elmer.....Cochrane
Fetting, Romeo.....Cochrane
Haigh, Clarence.....Cream
Haigh, Erwin.....Cream
Hitt, O. A.....Alma
Jahn, Chas.....Cream
Jost, Edwin.....Mondovi
Kaste, A. H.....Cream
Kennedy, B. J.....Nelson
Kennedy, L. J.....Nelson
Kennedy, P. H.....Nelson
Loesel, August.....Cochrane
Muehleisen, Gottlieb.....Alma
Schawb, A. F.....Cream
Seyforth, F. J.....Mondovi
Seyforth, R. F.....Mondovi, R. F. D. 4
Suhr, Adolph.....Cochrane
Suhr, O. A.....Cochrane
Waste, F. B.....Mondovi
Whelan, J. V.....Mondovi
Wilk, H. F.....Alma

BURNETT COUNTY.

Barge, W. R.....Grantsburg
Olson, A. H.....Grantsburg

CALUMET COUNTY.

Christoph, Theo. F.....Chilton
Huebner, O. A.....Brillion
Kolhler, J. P..New Holstein, R. F. D. 1
Sevenich, Tony.....Hilbert
Wipperman, Wm.....Chilton

CHIPPEWA COUNTY.

Buchanan, Robt.....New Auburn
Burnell, Roy.....Chippewa Falls
Cherrier Bros.....Chippewa Falls
Christiansen, W. O.....Chippewa Falls
Herr, John G.....Stanley
Kramer, H. F.....Bloomer
Lebeis, Frank.....Bloomer
Loether, E. J. .....Holcombe
Martiny, L. P.....Chippewa Falls
Roe, Edwin.....Stanley
Scott, W. Humphrey.....Stanley
Siepert, F. W.....Chippewa Falls
Vincent, Chas.....New Auburn

CLARK COUNTY.

Ehlert, Erich.....Columbia
Jorenby, Carl.....Greenwood
Kienholz, Ralph.....Stanley
Nelson, Carl.....Greenwood
Nissen, Martin.....Owen
Peterson, Edwin M.....Curtiss
Sample, F. W.....Withee, R. F. D. 2
Thompson, Arthur.....Curtiss
Umlauft, Rudolph.....Dorchester
Zahradke, J. J.....Granton

COLUMBIA COUNTY.

Anacker, Bernhardt.....Portage
Anacker, Leonard.....Portage, R. 2
Barden, C. S.....Pardeeville
Barden, Reginald.....Pardeeville
Bell, Frank.....Columbus
Bleecker, D. E.....Columbus
Boyd, H. J.....Columbus
Brereton, Geo. H.....Lodi
Brereton, Hugh.....Lodi
Brereton, Thos. D.....Lodi
Brown, I. C.....Lodi
Bockley, Lawrence.....Kilbourn
Carncross, J. E.....Lodi
Church, W. H.....Lodi, R. F. D. 1
Ellickson, A. C.....Arlington
Gloeckler, Theo.....Portage
Grove, Albert.....Columbus
Grove, Christian.....Columbus
Grove, Henry.....Columbus
Hughes, J. W.....Columbus
Johnson, Theo.....Rio
Jones, E. J.....Columbus
Lloyd, E. B.....Cambria
McConville, J. L.....Lodi
O'Conor, Edw. F.....Lodi
Peck, E. G.....Portage
Richards, F. G.....Lodi
Richards, R. E.....Lodi
Richards, W. M.....Lodi
Sharpee, Alfred A.....Rio
Sharpee, E. A.....Rio
Sharpee, J. A.....Rio
Shaw, Geo. W.....Fall River
Stace, A. J.....Portage
Thomas, Edgar.....Pardeeville
Trapp, Peter.....Columbus, R. F. D. 1
Trapp, Zeno. O.....Columbus
Weber, G. H.....Columbus
Wright, L. A.....Columbus

CRAWFORD COUNTY.

Aberg, Jacob.....De Soto
Brodt, C. D.....Bridgeport
Hjelle, Ole H.....Soldiers Grove
Marken, R. L.....Gays Mills
Olsen, Archie.....Ferryville, R. F. D. 3
Stevenson, Carl.....
.....Soldiers Grove, R. F. D. 5

DANE COUNTY.

Alexander, Arch. S.....Macfarland
Anderson, F. R.....Oregon
Anderson, H. C.....Cambridge
Angvick, Lars.....Cottage Grove
Anthony, D. C.....Oregon
Asleson, Albert...Stoughton, R. F. D. 2
Bacon, C. W.....Burke
Belda, W. F.....De Forest
Bendickson, I. E.....Cambridge
Benson, Ed. E.....Mt. Horeb
Berg, Carl O.....Stoughton
Bergum, Andrew.....De Forest
Bergum, Arthur.....De Forest
Bergum, P. B.....De Forest
Berkenbine, Robt.....Sun Prairie
Best, Thos, A.....Belleville

MEMBERSHIP, 1914—Continued.

Brickson, Andre.....Cottage Grove
Brictson, A. M.....Deerfield
Brigham, Chas. I.....Blue Mounds
Brue, N. H.....De Forest
Chase, J. P.....Sun Prairie
Chatterton, R. W.....Basco
Chatterton, W. E.....Basco
Chipman, W. R.....Morrisonville
Chynoweth, H. E.....Madison
Colladay, W. E.....Macfarland
Daley, Edwin.....De Forest
Damler, Walter.....Sun Prairie
Damp, De Witt.....Dane
Davidson, W. L.....Verona. R. F. D. 2
Davison, R. W.....Sun Prairie
Drumasky, Geo.....Sun Prairie
Eastman, J. S.....Madison
Elvehjem, E. S.....Macfarland
Engelstad, Alvin.....Deerfield
Engelstad, Bendie.....Deerfield
Fadness, J. H.....Deerfield
Ford, J. L.....Mazomanie
Garland, J. J.....Madison
Gillette, Rufus.....Verona
Graber, L. F.....Madison
Grambsch, Alvin.Madison, 414 S. Brooks
Green, O. J.....Oregon
Hegg, Bennie.....Madison, R. F. D. 3
Heggestad, Ed.....Stoughton
Holman, Peter.....Windsor
Hopkins, B. F.....Morrisonville
Hopkins, J. W.....Morrisonville
Howie, John.....Waunakee
James, John A.....Madison
Jones, E. F.....Sun Prairie
Juday, L. F.Madison, 414 N. Charter St.
Kaltenberg & Sons.....Waunakee
Kendall, F. W.....Sun Prairie
Kendall, G. W.....Sun Prairie
Kneeland, Peter.....Windsor
Koltes, Jas. F.....Dane
Larson, A. C.....Madison
Lee, Lewis J.....De Forest
Lee, Oliver.....Klevenville
Lee, P. A. G.....Deerfield
Lein, L. O., Sr.....Cambridge
Le'th, B. D.....Madison
Libbey, J. L.....Madison, R. F. D 4
Marsden, L. W.....Cambridge
McCoy, Everett.....Sun Prairie
Meister, Elmer C.....Sun Prairie
Mitchell, Geo.....Cottage Grove
Mitchell, James.....Cottage Grove
Moen, H. C.....Cambridge
Moore, R. A.....Madison
Moore, W. H.....Cambridge
Nellen, P. J.....De Forest
Nelson, O. L.....Cambridge
Norgord, C. P.....Madison
Notseter, O. H.....Deerfield
Noyce, Elmer.....Oregon
Patterson, H. J.....Macfarland
Pederson, B. S.....Windsor
Pierstorff, Otto.....Madison
Punzel, Max.....Cambridge
Radermacher, John.....Middleton
Rasmussen, H. G.....Black Earth
Reindahl, A. K.....Madison
Reindahl, Chas.....Madison
Renk, W. E.....Sun Prairie
Reppen, Jos. N.....Dane
Reppen, N. O.....Dane
Rorge, A. J.....Stoughton
Ross, M. F.....Belleville
Ruste, C. E.....Blue Mounde
Ruste, C. O.....Blue Mounds
Rumpf, M. J.....Cambridge
Ryan, Gerald T.....Sun Prairie
Sanborn, E. H.....Middleton
Schaffer, Dan A..Madison, 615 Lake St.
Schneider, G. P.....Oregon
Schoenfeld, Wm. A.....Madison
Showers, M. W.....Mazomanie
Smith, Earl H.....Blue Mounds
Sorenson, C. A.....Klevenville
Sprecher, F. F.....Burke
Stoeber, E. G.....Madison, R. F. D. 7
Stoeber, E. J.....Madison, R. F. D. 7
Stolen, A. A.....Mt. Horeb
Stolen, K. H.....Mt. Horeb
Stone, A. L.....Madison
Tenjum, A. A.....De Forest
Thibodeau, E. F.....Madison
Thompson, Melvin.....Mt. Horeb
Toepfer, Otto F.....Madison, R. F. D.
Veium, Halvon.....Stoughton
Vick, Oscar.....Macfarland
Vogt, E. C.Madison, 142 W. Gilman St.
Vroman, H. E.....Verona
Wagner, John.....Middleton
Warner, R. E.....Madison, R. F. D. 7
Way, L. A.....Riley
Wellmarth, E. E.....Sun Prairie
Wernick, Wm.....De Forest
Wittwer, Carl F.....Riley
Zerbel, Louis.....Madison

DODGE COUNTY.

Barstow, Jas. E.....Randolph
Becker, H. H.....Juneau
Beule, E. A.....Beaver Dam
Block, A. F.....Lomira
Bohl, Anton.....Beaver Dam
Bohl, Raymond, T.....Beaver Dam
Bradley, J. L.....Randolph
Bremer, E. O.....Hustisford
Brown, L. H.....Waupun
Burris, F. E.....Kendall
Bush, C. W.....Waupun
Bussewitz, Orlo J....Juneau, R. F. D. 2
Bussewitz, Wm.....Juneau
Canniff, H. T.....Juneau
Cortte, A. P.....Lomira
Fehling, I. T.....Juneau, R. F. D. 2
Goetsch, A. A.....Juneau
Goetsch, F. A.....Juneau
Grebe, F. P.....Fox Lake
Hesprich, John F.....Lomira
Howitt, C. H.....Randolph
Indermuehle, F. A.....Beaver Dam
Johnson, Frank R.....Hustisford
Jones, J. G.....Beaver Dam
Jones, O. R.....Beaver Dam
Jung, J. W.....Randolph
Krause, J. L.....Beaver Dam
Krueger, E. H..Beaver Dam, R. F. D. 1
Krueger, H. E.....Beaver Dam
Luebke, Albert.....Hustisford
Luebke, August.....Hustisford
Luebke, Otto.....Hustisford
Marthaler, H. E.....Beaver Dam
Newberger, W. T.....Reeseville
Newberger, Wm. T.....Reeseville
Owens, H. C.....Fox Lake
Owens, W. E.....Fox Lake
Rex, E. H.....Beaver Dam
Riordan, J. P.....Mayville

MEMBERSHIP, 1914—Continued.

Pierce, M. A.....Fall Creek
Rebensdorf, Fred.....Fairchild
Russell, A. C.....Augusta
Winter, W. W.....Eau Claire
Works, O.....Augusta
Wright, W. C.....Eau Claire, R. 4

FLORENCE COUNTY.

Bergsten, Emil.....Florence

FOND DU LAC COUNTY.

Bonzelet, J. P.....Eden
Briggs, E. T...Fond du Lac, R. F. D. 7
Burg, Harold O.....Peebles
Chapin, Arthur J.....Brandon
Dickman, Ed. ....Brandon
Donovan, F. J.....Van Dyne
Duel, Myrton H. Fond du Lac, 185 5th St.
Finder, Fred.....Van Dyne
Fitzgerald, Clarence.....Fond du Lac
Gibbard, P. J.....Ripon, R. F. D. 17
Goebel, Henry N.....Fond du Lac
Hargrave, Robt.....Ripon
Hayes, Carl..Campbellsport, R. F. D. 29
Hazen, Calvin C.....Waupun
Hendricks, J. H.....Campbellsport
Hills, L. H.....Waupun
Hintz, Geo. E.....Oakfield
Hintz, Hugo F.....Oakfield
Holterman, Robt.....Fond du Lac
Horner, G. B.....Ripon
Jones, Alvin .....Eldorado
Jones, E. W.....Brandon
Kuehn, Chas. A.....Brandon
Leeman, Roy E.....Waupun
Leith, R. H.....Van Dyne, R. F. D. 9
Martin, H. A.....Eden
Meekin, H. W.....Fond du Lac
Michels, H.....Malone
Michels, Math.....Peebles
Miller, A. H.....Waupun
Miller, L. H...Fond du Lac, R. F. D. 8
Miritz, O. F.....Fond du Lac
Moore, A. B.....Campbellsport
Ottery, Geo.....Fond du Lac
Parks, Wm. S.....Eldorado
Rather, A. P.....Peebles
Redmond, E. M.....Calvary, R. F. D. 4
Roach, J. M.....Fond du Lac
Ruesink, H. G.....Waupun
Schmoldt, Clarence.....Rosendale
Schussmann, Harry .....Malone
Shea, Maurice.....
.....Campbellsport, R. F. D. 34
Sheldon, Ben F.....Brandon
Walgenbach, John.....Fond du Lac
West, H. P.....Ripon
Whiting, Warren J.....Brandon
Wilsie, T. C.....Brandon

FOREST COUNTY.

Grandine, Lester.....North Crandon

GRANT COUNTY.

Banner, R. E.....Boscobel, R. F. D. 3
Bennett, A. J.....Platteville
Bennett, Clarence.....Platteville
Bennett, O. J.....Platteville
Biddick, Elmer.....Livingston
Biddick, John R.....Livingston
Cadwell, Lester .....Cassville
Carmody, Dan.....Mt. Ida
Cullen, Clarence.....Sinsinawa
Di Vall, Wm.....Montfort
Gilberson, O. E.....Stitzer
Graham, Chester.....Fennimore
Groom, H. L.....Cassville
Hampton, Clark.....Lancaster
Kahle, John.....Louisburg
Knutson, Murel.....Livingston
Kolar, J. M.....Muscoda
Kreul, Aug. A.....Fennimore
Kreul, H. C.....Fennimore
Loy, Wm. A.....Stitzer
Michelson, Casper.....Mt. Hope
Nowak, J. C.....Muscoda
Offerdale, P. E.....Boscobel
Parrott, Alfred H.....Fennimore
Patterson, J. L.....Glenhaven
Preston, Geo.....Montfort
Ralph, LeRoy.....Cuba City
Reck, Bernard.....Cassville
Runde, August.....Sinsinawa
Runde, Frank.....Louisburg
Shemak, J. F.....Muscoda
Smith, Witt. V.....Louisburg
Steinhoff, Walter.....Platteville
Stivarius, Geo. A.....Fennimore
Tiedemann, H. G.....Platteville
Vesperman, Earl.....Lancaster
Wayne, Joseph.....Boscobel, R. F. D. 3
Wilkens, Chas. A.....Platteville
Wilkins, Lee.....Platteville
Wilkins, Osmer.....Platteville
Wise, John H., Jr.....Platteville

GREEN COUNTY.

Biglow, L. F.....Brooklyn
Brown, Wm. A.....Monroe
Brunner, Ed. Z.....Monroe
Coldren, Wm.....Juda
Dettwiler, John.....Monroe
Douglas, O. M.....Brodhead
Douglas, Rob. J.....Juda
Geigel, John.....Monroe, R. F. D. 6
Haman, E. E.....Monroe
Haskins, Leon.....Monticello
Hoesly, Clarence.....New Glarus
Hoesly, M. J....New Glarus, R. F. D. 2
Jeffery, F. D.....Monroe
Klassey, Henry.....Monroe
Lewis, Lester.....Monticello
Lewis, L. N.....Monticello, R. F. D. 1
Mau, H. G.....Brodhead
Morgan, Chas.....Albany
Reigle, Wm .....Brodhead
Thorp, E. B.....Monroe
Thorpe, Geo. E.....Monroe
Tochterman, C.....Monroe
Trumpy, Fred.....Monroe
Tschudy, Benj. O.....Monroe
Waelti, Jno.....Monroe
Waelti, Sam W.....Monroe

MEMBERSHIP, 1914—Continued.

Roberts, Wm. E.....Randolph
Schumann, Hugo S.....Beaver Dam
Undermuehle, Felix.....Beaver Dam
Voight, Wm. C.....Lomira
Voight, Fred.....Lomira
Weber, Leonard.....Beaver Dam

DOOR COUNTY.

Abramson, Joll.....Sawyer
Haas, J. A.....Sturgeon Bay
Klumb, Hugo G.....Ephraim
Larson, Eli .....Sawyer
Powers, W. C.....Ellison Bay

DOUGLAS COUNTY.

Schlaffer, Max.....Solon Springs
Schmidt, Bros.....Foxboro
Webb, W. H.....Superior

DUNN COUNTY.

Brill, Geo. A.....Caryville
Cramer, Joe.....Menominie
Emerson, Albert.....Wheeler
Gehrking, F. J.....Elk Mound
Jacobs, E. C.....Elk Mound
Kent, H. W.....Rusk
Kent, J. S.....Rusk
Kopp, Elmer F.....Caryville
Larson, F. W.....Knapp
Larson, J. M.....Knapp
Larson, Lewie.....Downing
Meacham, C. W.....Downing
Meacham, E. R.....Downing
Stegne, Chris.....Wheeler
Schlough, Roy.....Wheeler
Vorland, Geo. T.....Colfax

EAU CLAIRE COUNTY.

Allen, C. L.....Eau Claire
Anderson, Knute.....Eau Claire
Dahl, O. A.....Fairchild
Faast, B. F.....Eau Claire
Halbert, J. H.....Augusta
Halbert, S. W.....Augusta
Ihle, Leo G. Eau Claire, 604 N. Dewey St.
Koll, C. A.....Eau Claire
Kurth, Orrin.....Eau Claire
Marten, Julius.....Eau Claire
Mayo, J. H., Jr.....Eau Claire

GREEN LAKE COUNTY.

Davison, Harley.....Markesan
Frei, John.....Markesan
Kutchin, Victor, M. D.....Green Lake
Page, G. F.....Berlin

IOWA COUNTY.

Bainbridge, Clayton G.....Livingston
Bainbridge, R. J.....Livingston
Beckett, Geo. N.....Ridgeway
Brunker, J. A.....Ridgeway
Brunker, J. E.....Ridgeway
Duffey, Edw.....Highland
Engels, Joe E.....Mineral Point
Enloe, Jefferson.....Rewey
Farwell, R. R.....Ridgeway
Graber, Edw..Mineral Point, R. F. D.
Grunemvold, Le Roy C.....Livingston
Hughes, J. E.....Ridgeway
Kelley. A. N.....Mineral Point
McCutcheon, Robt.....Arena
McKenzie, Maxwell.....Barneveld
Mitchell, G. P.....Dodgeville
Morrissey, Bros.....Arena
Mueller, Henry.....Livingston
Oimoen, Otto.....Barneveld
Paulson, H. E.....Hollandale
Peterson, Carl.....Barneveld
Price, Moody S.....Arena
Price, N. D.....Avoca
Wilson, S. S.....Livingston

IRON COUNTY.

Anger, W. O.....Saxon
Peter, Max H. A.....Mercer

JACKSON COUNTY.

Bullock, Jas. P.....North Bend
Dettinger, Stanley.....Hixton
Dettinger, Wm. F.....Hixton
Dietrick, J. J.....Black River Falls
Engleman, John.....Hixton
Erickson, Rob.....Melrose
Haag, Frank.....Melrose
Haag, Henry .....Melrose
Hecketsweller, O. J.....Alma Center
Huseboe, H. M.....Taylor
Jones, P. W.....Black River Falls
Joos, F. B.....Alma Center
Lane, O. J.....Hixton
McNab, A. J.....Black River Falls
Odien, Axel L.....Black River Falls
Olsen, A. O.....Black River Falls
Patterson, Harvey.....Melrose
Ristow, C. S.....Black River Falls
Rustad, Oscar.....Black River Falls
Smith, E. J.....Taylor
Spangrud, D. K.....Taylor
Thompson, Adolph..Black River Falls
Thompson, J. A.....Taylor
Wallen, Aron .....Taylor

JEFFERSON COUNTY.

Albrecht, John....Waterown, R. F. D. 6
Bernhardt, Oscar.....Ixonia
Brown, Abbott A.....Waterloo
Brueckner, H. C.....Jefferson
Brueckner, Julius.....Jefferson
Crossman, Arthur.....Lake Mills
Emmert, H. L.....Johnson Creek
Emmert, O. J.....Johnson Creek
Goecke, P. L.....Watertown
Grell, H. J.....Johnson Creek
Guttenberg, Frank, Jr.....Jefferson
Hans, Joe.....Jefferson, R. F. D. 1
Hardtke, Wm.....Watertown
Hintzmann, Otto.....Watertown
Hooper, S. C.....Palmyra
Hooper, W. G.....Palmyra
Hoselin, E. E.....Waterloo
Jaeger, H. C.....Ixonia

MEMBERSHIP, 1914—Continued.

Kracht, Albert .....Jefferson
Krueger, Alex.....Watertown
Lean, G. A.....Palmyra
Lehmann, Theo.....Watertown
Leonard, Geo. H.....Jefferson
Leonard, Wm. R.....Jefferson
Longley, H. N.....Dousman
Mathews, M. D.....Helenville
Niere, Stuart.....Watertown
Northey, W. G.....Palmyra
Parsons, Wm. A.....Ft. Atkinson
Perry, J. H.....Ft. Atkinson
Popp, Arthur .....Jefferson
Rabenhorst, B. W.....Jefferson
Rieck, Wm.....Watertown
Tschudy, A. H.....Palmyra
Tschudy, J. J.....Palmyra
Vosburg, Carlin.....Ft. Atkinson
Ward, R. W.....Ft. Atkinson
Ward, Theo. S.....Ft. Atkinson
Wendt, A. L.....Lake Mills
Woelffer, Herbert .....Waterloo

JUNEAU COUNTY.

Bentson, A. P.....Elroy
Curtis, J. C.....New Lisbon
Frederickson, E. A.....Necedah
Fredrickson, Hans F.....Necedah
Hansen, Harry.....Camp Douglas
Mead, R. E.....New Lisbon
Moore, Henry G.....Mauston
Niles, Milo E.....Mauston
Wagner, J. M..Union Center, R. F. D. 1
Wermuth, Geo.....Mauston
Wick, H. A.....Mauston

KENOSHA COUNTY.

Beimer, Geo.....Salem
Betzer, R. A.....Kenosha
Bradley, Frank.....Somers
Curtis, M. W.....Trevor
Curtis, W. R.....Trevor
Dexter, Walter S.....Kenosha
Drom, August.....Trevor
Holt, Edw. L.....Pleasant Prairie
Kreuscher, Wm. R.....Somers
Orvis, L. C.....Salem
Rhodes, Clarence.....Kansasville
Roberts, F. W.....Woodworth
Sheen, C. J.....Salem
Sheen, W. J.....Trevor
Thiers, L. M.....Kenosha
Thompson, W. E.....Kenosha
Yule, Earl S.....Somers

KEWAUNEE COUNTY.

Boudnick, John..Kewaunee, R. F. D. 7
Cherveny, Wenzel.....Kewaunee
Collin, D. W.....Luxembourg
Glandt, R. C.....Kewaunee
Haevers, Martin.....Luxembourg
Jelinek, Wm.....Kewaunee
Kassner, Edward..Kewaunee, R. F. D. 6
Katel, Wm.....Kewaunee
Krofta, Rudolph.....Kewaunee
Nelson, Ben. C.....Stangelville
Nemetz, Frank.....Kewaunee
Peckham, John.....
.....Luxembourg, R. F. D. 1
Pelecek, Frank.....Kewaunee
Prochnow, F. F.....Luxembourg
Schmidt, Wm. Jr.....Algoma
Servais, O. C.....Luxembourg
Shestock, F. E.....Kewaunee
Stangel, Richard.....Kewaunee
Teska, Chas.....Kewaunee
Zahorick, A. J.....Kewaunee

LA CROSSE COUNTY.

Balmer, F. E.....Onalaska
Beranek, Wm.....Stoddard
Bosshard, E.....Bangor
Campion, T. H.....Onalaska
Cashberg, C. M.....Holmen
Davis, L. H.....Bangor
De Boer, Martin.....Midway
Dengel, Peter.....La Crosse, R. F. D. 1
Eggler, V.....La Crosse, R. F. D. 1
Faas, Wm.....Onalaska
Griswold, H. W.....West Salem
Harrison, F. A.....Bangor
Hasselberg, W. C.....Bangor
Hemker, F. H.....West Salem
Hoeth, Geo.....La Crosse
Knudson, Math.....Holman
Larson, P. A.....La Crosse, R. F. D. 3
Lauterback, Adolph.....La Crosse
Lawrence, F. W.....Bangor
Lovejoy, H. D.....West Salem
Markle, S. P.....La Crosse
Moss, Wm.....Onalaska
Nuttelman, Alfred.....West Salem
Nuttelman, Fred.....West Salem
Ofstedahl, Walter.....Holmen
Peters, Edw.....La Crosse
Quall, O. P.....Midway
Ristow, Harry.....Onalaska
Schaller, F. G.....Holmen
Schaller, Geo. W.....Holmen
Van Loon, John.....La Crosse
Westerhouse, Garret.....
.....Onalaska, R. F. D. 1
Whitehead, H. W.....Rockland
Whitbeck, W. F.....Onalaska
Willinga, Jippa .....Midway
Wolf, Otto.....La Crosse, R. F. D. 2

LA FAYETTE COUNTY.

Andrews, A. L.....South Wayne
Ashton, Wm. L.....Belmont
Benedict, O. N.....Darlington
Glindinning, H. L.....Shullsburg
Gunderson, A. O.....Argyle
Homb, H. C.....South Wayne
Ingwell, Albert.....Blanchardville
Larson, J. S.....Woodford
Larson, W. H.....Gratiot
Merriam, L. J.....Darlington
Perry, Wm. H.....Gratiot
Rood, M. C.....South Wayne
Schreiter, H. D.....Darlington
Smith, A. J.....Gratiot
Watrud, H. O.....Blanchardville

LANGLADE COUNTY.

Follstad, Anton.....Elcho
Demlow, Ralph.....Antigo, R. F. D. 3
Hutchinson, Paul.....Bryant

MEMBERSHIP, 1914—Continued.

McClean, John.....Antigo
Schmidt, Rose.....Antigo
Schwartz, John.....Antigo, R. F. D. 4

LINCOLN COUNTY.

Jensen, Walter.....Irma
Parrott, G. L.....Merrill

MANITOWOC COUNTY.

Axley, Walter.....Cleveland
Bauer, A. H.....Manitowoc, R. F. D. 2
Berge, Albert.....Valders
Beyer, Hans.....Mishicot
Brockhoff, Paul.....Manitowoc
Bruhn, J. F.....Two Rivers, R. F. D. 1
Dvorak, Henry.....Mishicot, R. F. D. 3
Eiseman, Harvey.....Mishicot
Garey, James....Manitowoc, R. F. D. 6
Geraldson, M. E. G.....Manitowoc
Greve, Harry.....Kiel
Gustaveson, Chas.Manitowoc, R. F. D. 4
Hougen, Elmer S.....Valders
Heidermann, O. C.....Kiel, R. F. D. 2
Hetzel, Gilbert.....Cleveland
Hoefner, Herbert.Manitowoc, R. F. D. 1
Jackson, Van E.....Valders
Jaehnig, E. G.....Cleveland
Johannes, Albert .....Two Rivers
Klann, Adolph.....Reedsville
Klessig, Edwin.....Cleveland
Knutson, Ed. A...Manitowoc, R. F. D. 4
Koellmer, Gustav.....Cleveland
Kozelka, J. A.....Mishicot
Lorfield, A. E.....Cleveland
Lutze, Geo.....Cleveland
Marken, O. A.....Valders
Moldenhauer, W. C.....
.....Manitowoc, R. F. D. 1
Nate, G. B.....Grimms
Paulson, J. E.....Manitowoc
Pritzel, John A.....Cato
Reinertson, Chris.....Valders
Reinertson, Thos. E.....Valders
Roethel, Herman.....Kiel
Salzmann, A. A.....Kiel, R. F. D. 2
Schuster, Chas...Manitowoc, R. F. D. 7
Specht, E. A.....Manitowoc
Stein, Joseph N.....Cleveland, R. 2
Strowig, Wm. A.....Cleveland
Sutze, Geo.....Cleveland
Thielke, A. H.....Kiel, R. F. D. 1
Tyler, J. G.....Valders, R. F. D. 1
Wagner, Joseph M.....
.....Cleveland, R. F. D. 1
Wiegand, O. R.....Cleveland
Wieting, Ed.....Kiel
Witte, Fred.....Two Rivers
Witte, Oscar.....Two Rivers

MARATHON COUNTY.

Aderhold, H. F.....Athens
Baesemann, Otto.....Edgar
Frane, Victor.....Colby
Munkwitz, W. E. R.....Edgar
Parsch, Gustav .....Wausau
Steinwand, Theo.....Colby
Steinhaus, W. E.....Rozellville
Ureik, Silas.....Wausau
Vaughan, John M.....Unity

MARINETTE COUNTY.

Christ, Harold J.....Wausaukee
Parsons, Harry.....Crivitz
Ramsey, R. C.....Peshtigo

MARQUETTE COUNTY.

Bethke, Louis.....Neshkoro
Hamilton, T. S.....Westfield
Houslet, Neal.....Packwaukee
Manweiler, W. L.....Westfield

MILWAUKEE COUNTY.

Arnold, A. A.Milwaukee, 1460 Richard St.
Austin, Edward, Jr.....
.....Sta. D., Milwaukee, R. F. D. 2
Babcock, Chas. L.....
.Milwaukee, 404 Colby-Abbot Bldg.
Basse, Wm. H....West Allis, R. F. D. 5
Bernhardt, Chas. R.....Hales Corners
Cooper, G. J..West Allis, 543-72nd Ave.
Didervich, N. A.....
.....North Milwaukee, R. F. D. 10
Duve, H. F.....West Allis, R. F. D. 3
Greenwood, F. E.....
.....Milwaukee, 220-16 W. St.
Hickcox, J. Gilbert....White Fish Bay
Kremer, Paul .....
.....Milwaukee, 434 Wells Bldg.
Krutze, Otto....West Allis, R. F. D. 4
Marti, Herman .....
.....Milwaukee, Sta. D., R. F. D. 2
Meyer, Alfred J..Oakwood, R. F. D. 18
Nichols, Geo. D.....
.....Milwaukee, 52nd & Vliet St.
Pagenkoff, Louis.....
.....Milwaukee, 1486-17th St.
Pagenkoff, Walter.....
.....Milwaukee, 1483-17th St.
Peterson, F. B.....
.....Milwaukee, 1209 Ry. Exch.
Rasche, A. L.....
.....Milwaukee, 785 Indiana Ave.
Schoenfeldt, G. A.....
.....Milwaukee, 675 Madison St.
Schwerman, Chas.....
.....Milwaukee, Sta. D., R. F. D. 3
Sievers, F. J.....Wauwatosa
Stumpf, Walter.....
....Milwaukee, 3226 Park Hill Ave.
Swan, N. J.....Wauwatosa
Weaver, E. W. .....Wauwatosa

MONROE COUNTY.

Aarness, O. C.....Cashton
Aney, Earle L.....Norwalk
Ebert, Francis.....Tomah
Foth, E. A.....Norwalk
Foth, F. D.....Norwalk
Freeman, G. A.....Sparta
Gamerdinger, John.....Kendall
Harris, R. E.....Warrens
Kirst, A. L.....Tomah
Leverich, J. E.....Sparta
Leverich, J. W.....Sparta
Mis'ele, Wm. O.....Kendall
Olson, Louis F.....Tomah
Vieth, H. E.....Norwalk
Vieth, Otto.....Norwalk
Zirk, P. A.....Kendall

MEMBERSHIP, 1914—Continued.

OCONTO COUNTY.

Anderson, Alfred.....Mosling
Anderson, Dewey.....Mountain
Bagsted, A. C.....Lena
Berger, J. H.....Oconto Falls
Brock, Martin L.....Lena
Bubolz, Otto.....Underhill, R. F. D. 1
Cole, Schley .....Mountain
Degeneffe, Joe.....Oconto, R. F. D. 2
Etheridge, J. I.....Oconto
Gomber, Peter.....Gillett
Grosse, R. S.....Little Suamico
Howell, John.....Gillett
John, A. C.....Gillett
Kehl, John.....Oconto, R. 1
Lembcke, Louis.....Oconto
Martineau, Andrew.....Gillett
Marek, Viola.....Oconto
Olson, Thorwald.....Mountain
Riepenburg, Bert.....Gillett
Routhean, Edw.....Oconto, R. F. D. 2
Tate, F. F.....Breed
Volk, E. S.....Oconto Falls
Weber, Aug.....Underhill, R. F. D. 2
Wegner, Henry.....Oconto

ONEIDA COUNTY.

Ballard, Chas.....Enterprise
Felland, W. T.....Rhinelander
Haase, Wm.....Enterprise
Luther, E. L.....Rhinelander
Lyman, Chas.....Rhinelander
Schoeneck, Adolph.....Enterprise
Schoeneck, Gust. J.....Enterprise
Schoeneck, Herman .....Enterprise
Schoeneck, Paul.....Enterprise

OUTAGAMIE COUNTY.

Breitrick, Ora.....Greenville
Brucewitz, C. H.....Black Creek
Cuff, O. P.....Hortonville
Dietz, Geo.....Greenville
Jamison, Clarence.....
.....Appleton, R. F. D., 2
Jamison, Harvey...Appleton, R. F. D. 2
Jamison, Howard..Appleton, R. F. D. 2
Jamison, Rob.....Appleton, 2
Jamison, Stanley..Appleton, R. F. D. 2
Jamison, W. G....Appleton, R. F. D. 2
Letts, E. F.....Appleton, R. F. D. 4
Lohrenz, Wilbur.....Hortonville
Lockery, R. J.....Black Creek
Meulemans, Mathias.....Kaukauna
Mueller, Ed. O.....Appleton
Nieman, Arnold.....Greenville
Pierner, Ira C.....Sugar Bush
Pierner, Fred.....Sugar Bush
Rahmlow, H. J...Appleton, R. F. D. 4
Ryan, Malachi.....So. Kaukauna
Schaefer, R. J.....Appleton
Schmit, Geo.....Greenville, R. F. D. 16
Thoma, Ernest.....Sugar Bush
Tubbs, Herbert.....Seymour
Winkenwerder, Fred.....Greenville
Wussow, C. A.....Seymour

OZAUKEE COUNTY.

Bichler, Nic.....Belgium
Blank, G. A.....Grafton
Dineen, C. F.....Cedarburg
Dineen, Joe.....Cedarburg
Kieffer, Mike.....Fredonia
Kressin, Reinhold.....
.....Cedarburg, R. F. D. 2
Kressin, Wm.....Cedarburg
Miller, Nick.....Grafton
Nero, Wm. C.....Cedarburg
Pierner, J. W.....Thiensville
Sorweid, Wm.....Cedarburg, R. F. D. 2
Wulff, J. B.....Grafton

PEPIN COUNTY.

Fleishauer, C. K.....Arkansaw
Gustafson, Theo.....Stockholm
Jahnke, Julius.....Pepin
Pattison, H. A.....Durand

PIERCE COUNTY.

Anderson, Oscar.....Ellsworth
Barley, H. E.....River Falls
Batho, Lester.....Plum City
Brown, Earl.....Bay City
Brown, Monroe.....Bay City
Chapman, J. L.....River Falls
Chapman, W. A.....River Falls
Clark, W. W.....Ellsworth
Finstad, Frank.....Beldenville
Fuller, R. J.....Maiden Rock
Hammer, Melvin.....Rock Elm
Hanson, H. O.....Spring Valley
Hocking, Chas. R.....River Falls
Jacobson, Chas.....Spring Valley
Koller, Geo.....Ellsworth
Peirce, W. O.....River Falls
Preston, E. L.....Ellsworth
Ryan, John.....River Falls
Smith, Fred.....River Falls
Taylor, H. C.....River Falls
Taylor, J. B.....River Falls

POLK COUNTY.

Aune, Isaac.....Amery, R. F. D. 2
Clark, Chas.....Dresser Junction
Harkness, Harold.....Luck
Larsen, Fred S.....Milltown
Klinka J. S.....Balsam Lake
Lee, Oliver.....Amery, R. F. D. 2
Perry, E. B.....Amery
Pedersen, H. M. R.....Luck
Perry, Richard.....Amery
Peterson, Henry.....Centuria
Rehbein, A. E.....
.....St. Croix Falls, R. F. D. 1

PORTAGE COUNTY.

Abrahamson, Walter.....Amherst Jct.
Brekke, Anton B....Rosholt, R. F. D. 1
Fisher, Ray.....Almond
Frost, H. G.....Almond
Gordon, L. E., Jr.....Nelsonville
Hanson, N. P..Amherst Jct., R. F. D. 2
Kollock, Henry.....Bancroft
Peterson, Almer.....Nelsonville
Peterson, Arthur.....Nelsonville
Shelburne, A. H.....Bancroft
Tobie, E. P.....Amherst, Jct.
Williamson, Elmer.....Amherst Jct.

MEMBERSHIP, 1914—Continued.

PRICE COUNTY.

Frank, Dismas.....Phillips
Hoffman, Conrad.....Phillips
Maeder, J. W.....Brantwood
Morner, Arvid.....Ogema
Nelson, Elmer.....Prentice

RACINE COUNTY.

Adland, P. H.....North Cape
Block, Huron J..Burlington, R. F. D. 22
Chambers, O. Z.....Union Grove
Cooper, Archie H.....Franksville
Cook, Geo. L.....Burlington
Cook, J. C.....Burlington
Dale, Fulton.....Union Grove
Dale, Harry C.....Union Grove
Dunkelow, W. H.....Franksville
Erbe, Geo.....Caledonia
Foxwell, Everett.....Union Grove
Hans, Enoch.....Rochester
Hinchliffe, Walter.....
.....Burlington, R. F. D. 18
James, John A.....Rochester
Klofanda, Reuben....Racine, R. F. D 1
Nelson, H. A.....Union Grove
Nelson, R. W.....Union Grove
Peters, J. W.....Waterford
Reeseman, H. G.....
.....Burlington, R. F. D. 12
Renak, Edw.....Racine
Rhodes, Clarence.....Kansasville
Rhodes, F. L.....Kansasville
Robers, W. J...Burlington, R. F. D. 20
Roberts, Lynn J.....Corliss
Rolfson, C. E.....Waterford
Schelling, Edw., W..Racine, R. F. D. 2
Schelling, J. J.....Racine, R. F. D. 2
Skewes, Arthur E.....Union Grove
Sorenson, Hilbert.....
.....Franksville, R. F. D. 9
Stephen, Geo.....Racine, R. F. D. 1
Vyayan, Robt.....Union Grove
Zachar, M. R.....Racine, R. F. D. 1

RICHLAND COUNTY.

Bailey, Harry.....Richland Center
Draheim, H. T.....Gotham
Fogo, Geo.....Gillingham
Ghastin, Floyd.....Sextonville
Helm, Elmer.....Boaz
Honer, Wm. M.....Twin Bluffs
Nourse, Glen.....Sextonville
Post, H. L.....Sextonville
Post, V. W.....Sextonville
Ruetten, Hubert.....Twin Bluffs
Smith, J. H.....Gotham
Strang, Frank.....Lone Rock
Thorpe, Burt.....Tavera
Thorpe, J. R.....Tavera
Turgasen, J. H.....Richland Center
Welton, G. E.....Twin Bluffs

ROCK COUNTY.

Austin, C. P.....Janesville, R. F. D. 6
Austin, Frank.....Janesville
Austin, G. M.....Janesville, R. F. D. 6
Austin, Ira D.....Janesville
Austin, W. B.....Janesville
Benedict, E. L.....Beloit
Bingham, E. L.....Milton
Bingham, H. L.....Milton
Caldo, Leslie.....Janesville
Coon, Elam P.....Milton Jct.
Donner, Chas. F.....Janesville
Dougan, W. J.....Beloit
Emery, S. L.....Edgerton
Foerster, M. F.....Whitewater
Fellows, E. H.....Evansville
Garey, A. E.....Edgerton
Gates, C. M.....Clinton
Greene, J. H.....Clinton
Hahn, Robt.....Clinton Jct
Hahn, Rob. F.....Clinton, R. F. D. 3
Hemmingway, G. L.....Hanover
Holmes, G. A.....Beloit
Huebbe, E.....Beloit
Johnson, Roy M.....Edgerton
Jones, Arthur E.....Janesville
Lentell, Bennie V....Beloit, R. F. D. 25
Liddle, Wayne.....Beloit
Marston, A. E.....Beloit, R. F. D. 30
Meredith, Ernest.....Evansville
Moore, F. W.....Beloit, R. F. D. 30
Morgan, Hiram.....Beloit
Raessler, F. H.....Beloit
Raessler, N. R.....Beloit
Rasey, E. L.....Beloit, R. F. D. 27
Sarrow, Otto.....Evansville
Sayre, J. E.....Edgerton
Sherman, Chas.....Koshkonong
Sherman, Frank.....Koshkonong
Simpson, L. L.....Edgerton
Smith, L. E.....Beloit
Walters, Geo.....Beloit, R. F. D. 28
Ward, H. L.....Avalon
West, C. P.....Edgerton
Winkley, C. A.....Clinton Jct.

RUSK COUNTY.

Brainerd, Benj. A.....Bruce
Brainerd, E. K.....Bruce
Gillies, J. H.....Tony
Manley, Byne.....Ladysmith
Nelson, Earl.....Glen Flora
Van Patter, Jim.....Glen Flora

SAUK COUNTY.

Accola, J. H.....Prairie du Sac
Bickford, B. M.....Prairie du Sac
Borck, Sam.....North Freedom
Butterfield, Geo. A.....Reedsburg
Clavidatscher, T.....Sauk City
Clingman, E. E.....Reedsburg
Clingman, E. S.....Reedsburg
Dippel, A. R.....North Freedom
Getchell, Dwight.....Baraboo
Gonsolin, Fred.....Reedsburg
Grass, C. F.....Prairie du Sac
Hahn, Wm. J.....Reedsburg
Hatz, J. A.....Prairie du Sac
Hatz, O. J.....Prairie du Sac
Herwig, Theo. E.....Delton
Hillmer, Benj.....Logansville
Hinrichs, Ernest.....Reedsburg
Holmes, Geo. B.....Spring Green
Johnson, Glenn.....Baraboo, R. F. D. 2
Kinsman, Glenn.....LaValle
Kruse, Conrad.....Logansville
Kruse, Paul.....Logansville

MEMBERSHIP, 1914—Continued.

Kuehn, H. F.....Spring Valley
Langdon, Earl.....Baraboo
Lochmund, Rob.....Sauk City
Martiny, Pierce.....Baraboo
Mattke, Albert H.....Baraboo
McGinnis, Chas.....Baraboo
Oehsner, Arthur.....Plain
Pearson, L. T.....La Valle
Peck, Burton.....Spring Green
Peck, H. B.....Spring Green
Premo, Chas.....Baraboo
Premo, J. E.....Baraboo
Premo, W. H.....Baraboo
Randall, T. E.....Baraboo
Richardson, A. Merrill....Spring Green
Rodwald, W. C.....Baraboo
Rumpf, John.....Baraboo
Rusch, Albert.....Reedsburg
Rusch, E. W.....Reedsburg
Schreiber, L. E.....Baraboo
Schuette, H. W.....Reedsburg
Smith, W. E.....Reesdburg
Steidtmann, Edwin.....Merrimac
Suetscher, Alvin.....Plain
Thorne, F. L.....Ableman
Voeck, G. E.....North Freedom
Vonder Ohe, W. N.....
.....Reedsburg, R. F. D. 2
Watson, Harry.....Baraboo
Weirich, M. J.....Baraboo
Wheeler, Chas.....Reedsburg
Wheeler, I. W.....Limeridge
Wichern, L. M.....Baraboo
Wichern, Wm.....Baraboo, R. F. D. 4

SAWYER COUNTY.

Lindner, Walter.....Hayward
Uhrenholdt, Jens.....Hayward
Uhrenholdt, S. J.....Hayward

SHAWANO COUNTY.

Berg, Carl J.....Tigerton
Boldig, W. L.....Tigerton, R. F. D. 1
Brockman, Edw. A.....Shawano
Erickson, Elmer.....Rose Lawn
Giermandson, Martin .....Tigerton
Grinstad, Arthur.....Wittenberg
Hildeman, Alex. E.....Belle Plain
Noorbom, Gust.....Eland
Peterson, W. F.....Pulaski, R. F. D. 2
Sorley, E. B.....Tigerton

SHEBOYGAN COUNTY.

Atborn, W. G....Sheboygan, R. F. D. 1
Bechlem, E. W.....Plymouth
Forke, E. J.....Adell
Frauenheim, O. R.....Random Lake
Gorsege, W. E.....Haven
Heberer, C. H.....Adell, R. F. D. 19
Hoppert, M. J...Sheboygan, R. F. D. 4
Illian, Wm. L.....Adell
Jurss, Fred.....Plymouth, R. F. D. 25
Knoener, Geo.....Haven
Marx, O. H.....Haven, R. F. D. 6
Oeldrich, E. F...Sheboygan, R. F. D. 3
Ogle, James L.....Waldo
Opgenorth, Anton.Sheboygan, R. F. D. 4
Reineking, Rudolf H..Sheboygan Falls
Streiber, W. G.....Elkhart Lake
Thomas, Walter E.....Sheboygan Falls
Ubbelohde, F. G.....Sheboygan Falls
Wagner, A. L.....Haven
Wolters, Max C..Sheboygan, R. F. D. 1
Wunsch, Alfred J. C..Haven, R. F. D. 6
Wunsch, Hugo.....Haven, R. F. D. 6
Zehn, A. F.....Plymouth

ST. CROIX COUNTY.

Albert, Wm..New Richmond, R. F. D. 6
Alton, C. P.....River Falls
Aune, H. A.....Baldwin
Aune, J. G.....New Richmond
Arnquist, J. F.....New Richmond
Arnquist, J. P.....New Richmond
Bader, R. C.....New Richmond
Batten, G. L.....Hudson
Batten, Sydney.....Hudson
Bennett, W. E.....New Richmond
Boardman, F. H.....New Richmond
Boardman, Benj.....New Richmond
Brown, O. H.....New Richmond
Brunner, Fred.....Hudson
Brunner, Rob.....Hudson
Beebe, C. C.....Boardman
Buttner, Albert.....New Richmond
Carlson, Carl.....Glenwood City
Casey, W. H.....New Richmond
Christensen, V. F.....Roberts
Christoffersen, Chris.....
.....New Richmond, R. F. D. 4
Cook, Q. W.....Stanton
Dowling, Bros.....Hudson
Fay, A. W.....New Richmond
Fay, R. E.....New Richmond
Foster, S. S.....New Richmond
Fulton, B. H.....New Richmond
Gridley, Bert.....Hudson
Hanley, O. H.....Roberts
Hargrave, W. E.....Roberts
Hennessey, T. E.....
.....New Richmond, R. F. D. 2
Hocking, E. P.....Hudson
Hogan, E. J.....New Richmond
Hosford, Harry.....Hudson
Imrie, David.....Roberts
Jabusch, Wm.....Deer Park
Jacobson, H. C.....New Richmond
Jones, Walter.....Deer Park
Koltke, Geo. P.....Deer Park
Kruschke, G. H.....
.....New Richmond, R. F. D. 6
Kruschke, A. C.....New Richmond
Lamb, W. A.....Roberts
Legvid, H. E.....Deer Park, R. F. D. 1
Lowe, Hugh.....River Falls
Ohman, E. E.....Glenwood City
Paulson, P. A.....Hudson
Rassmusson, W. E.....Hammond
Rudd, R. R.....Deer Park
Ruemmele, Albert.....Hudson
Ruemmele, Geo. J.....Hudson
Ruemmele, J. F.....Hudson
Rundell, Lloyd.....Roberts
Ryan, Andy.....New Richmond
Ryan, Peter E.....New Richmond
Schwandt, Wm.....Deer Park
Silver, W. W.....New Richmond
Stiles, Chas. L.....Hudson
Stindt, C. W.....New Richmond
Stindt, Forrest.....New Richmond

MEMBERSHIP, 1914—Continued.

Thoreson, David.....Baldwin
Tracy, Lyman.....New Richmond
Uber, Dewey.....New Richmond
Webster, W. E.....Hudson

TAYLOR COUNTY.

Brandt, Henry.....Medford
Brecke, Wm. R.....Stetsonville
Buehler, Geo.....Medford
Horder, H. C.....Medford
Schemanski, Albert.....Stetsonville
Schmoldt, P. C.....Whittlesey
Searle, R. O.....Donald

TREMPEALEAU COUNTY.

Becker, P. V.....Galesville
Bishop, W. E.....Arcadia
Brovold, A. J.....Ettrick
Chappell, G. E.....Trempealeau
Christopherson, Eniar.....Pigeon Falls
Dutton, C. A.....Trempealeau
Eid, Albert.....Pigeon Falls
Ford, Lester.....Trempealeau
Graves, Clyde.....Trempealeau
Hagestad, A. C.....Ettrick
Hagestad, Wm. A.....Ettrick
Hanson, L. M.....Eleva
Haring, A. F.....Strum
Hegge, Albert.....Galesville
Imholt, B. A.....Trempealeau
Johnson, Frank L.....Osseo
Johnson, J. G.....Blair, R. F. D. 3
Lamberson, R. A.....Whitehall
Markham, F. C.....Independence
Mattison, Thos.....Blair
Melby, Wm. H.....Whitehall
Moen, Gilbert.....Eleva
Peterson, Bros.....Blair
Ristau, E. O.....Osseo
Ristau, Edw. W.....Osseo
Saed, A. H.....Blair
Sneerstra, Peter J.....Whitehall
Thompson, A. L.....Blair
Thompson, E. H.....Blair

VERNON COUNTY.

Dahl, A. J.....Viroqua
Errickson, H. N.....Cashton
Freehoff, R. E.....Coon Valley
Groves, J. O.....Viroqua
Hanson, M. L.....Viroqua
McClurg, Harry.....Viroqua
McClurg, Walter.....Viroqua
Molley, Glenn F.....Ontario
Olson, Alfred.....Viroqua
Rogers, H. J.....Stoddard
Sebion, Cornelius.....Westby
Sebion, Stanley.....Westby
Sebion, Tennis.....Westby
Stout, Ernest G.....Viroqua

WALWORTH COUNTY.

Ames, H. F.....Elkhorn
Anderson, H. E.....Whitewater
Bowers, C. W.....Delavan
Bromley, F. G..Whitewater, R. F. D. 4
Cooper, W. H.....Whitewater
Dunbar, H. D.....Elkhorn
Ells, F. W.....Elkhorn
Ells, Ross, H.....Darien
Hafs, Oscar.....Genoa Jct.
Harris, Ben F.....Delavan
Harris, J. S.....Delavan
Harris, R. L.....Delavan
Hatch, H. R.....Zenda
Imrie, James.....Whitewater
Kimball, L. A..Lake Geneva, R. F. D. 1
Kiteley, Leonard W.....Sharon
Lauderdale, Roy.....Elkhorn
Ledger, Albert.....Lake Geneva
Lewis, E. H.....Whitewater
Ludtk, Howard.....Lyons
Meurer, P. F.....Genoa Jct.
Mills, Edmund.....Elkhorn
Millis, Horace.....Whitewater
Millis, T. H.....Whitewater
Mitchell, Edw.....Delavan
Palmer, F. Earl.....Lake Geneva
Pester, C. J.....Whitewater
Peters, Ezra.....Sharon
Pester, J. H.....Whitewater, R. F. D. 3
Pester, Walter J.....Whitewater, R. F. D. 3
Peters, Ralph A.....Sharon
Peterson, Ira L.....Whitewater
Rieck, Christ.....Elkhorn
Robinson, A. S.....Lake Geneva
Sweno, Harley..Whitewater, R. F. D. 4
Taube, H. E.....Elkhorn
Thacker, Ed. F.....Zenda
Thompson, Alfred.....Delavan
Underwood, L. S.....Lake Geneva
Utter, Delwin.....Lake Beulah
Wright, John.....Whitewater

WASHBURN COUNTY.

Carlson, M. J.....Spooner, R. F. D. 2
Curtis, R. D.....Madge
Melby, Dan.....Spooner
Rylander, Ed.....Shell Lake
Rylander, Frank.....Shell Lake
Soholt, G. L.....Spooner
Soholt, Ole S.....Madge

WASHINGTON COUNTY.

Backus, F. G.....Kewaskum
Baertlein, W. A.....So. Germantown
Bartel, Paul.....Jackson
Gerner, Ed. W.....Barton
Gettelman, Ira R.....So. Germantown
Groth, Albert.....Rockfield
Groth, Henry.....Rockfield
Groth, Hugo.....Cedarburg
Groth, Louis.....Cedarburg
Groth, Walter.....Cedarburg, R. F. D.
Gutschenritter, F. J.....West Bend
Hoelz, Jacob, Jr.....Rockfield
Klinka, Joe.....West Bend
Lepien, Ray.....Hartford
Puls, A. O.....Hartford, R. F. D. 4
Puls, John.....Hartford
Quandt, Wm. F.....Hartford
Rather, Edw.....Colgate
Rather, Herman.....Colgate
Salter, Milo.....West Bend
Schottler, C. J.....So. Germantown

MEMBERSHIP, 1914—Continued.

Schowalter, E. J.....Jackson
Techtman, C. W..Kewaskum, R. F. D. 4
Wilke, Leander..West Bend, R. F. D. 1
Zierner, P. F.....Jackson

WAUKESHA COUNTY.

Baird, Austin.....Waukesha
Baird, J. W.....Waukesha
Baird, Robt. L.....Waukesha
Baird, Wm. L.....Waukesha
Blott, Lorimer.....Waukesha
Boyd, J. T.....Waukesha, R. F. D. 7
Brady, L. A.....Mukwonago
Butler, G. C.....Templeton
Claffey, Jas.....Pewaukee
Comstock, Robt.....Oconomowoc
Connell, E. J.....Menomonee Falls
Connell, Wm. A.....Menomonee Falls
Craig, Geo. D....Oconomowoc, R. F. D.
Cumming, G. H...Dousman, R. F. D. 3
Dance, Geo.....Brookfield
Dance, J. H.....Brookfield
Edwards, David R...Wales, R. F. D. 31
Fuller, Albert & Sons.....North Lake
Goltz, Clarence.....Waukesha
Green, H. T.....Genesee Depot
Grengo, R. L.....Menomonee Falls
Gunderson, A. Lee.....Oconomowoc
Gunderson, Forrest.....Oconomowoc
Hall, Frank.....Hartland
Hall, John.....Hartland
Hensel, Max H.....Dousman
Hickens, A. B.....Pewaukee
Hill, Chas.....Brookfield
Hill, Chas. F.....Brookfield
Hill, J. T.....Waukesha
Holt, F. C.....Oconomowoc
Holt, L. H.....Oconomowoc
Jacobson, F. E.....Oconomowoc
Jeffery, H. B.....Menomonee Falls
Kassilke, Arthur.....Waukesha
Kollath, Wm.....Menomonee Falls
Knutz, P. H.....Waukesha, R. F. D. 1
Lobdell, M. C.....Mukwonago
Lowry, G. G.....Waukesha
Lowry, S. S.....Waukesha
Luebke, Wm.....Oconomowoc
McKenzie, Chester.....Mukwonago
McKenzie, Wm.....Mukwonago
Mitchell, C. J.....Brookfield
Mitchell, Dan S.....Brookfield
Mitwede, Henry...Waukesha, R. F. D. 1
Nicholas, D. C....Waukesha, R. F. D. 4
Reyer, W. R.....Templeton
Rosenow, Arthur.....Oconomowoc
Rosenow, H. E.....Oconomowoc
Seitz, Adam.....Waukesha
Smith, Rob.....Mukwonago, R. F. D. 39
Swartz Bros. .....Waukesha
Swoboda, F. G.....Dousman
Van Buren, E. W.....Waukesha, R. 2
Voje, J. H. Jr.....Oconomowoc
Weeks, Allen.....Templeton
Weir, Robt. J.....Mukwonago
Will, Chas. J.....Menomonee Falls
Williams, Edw. T....Wales, R. F. D. 31

WAUPACA COUNTY.

Bille, J.....Waupaca
Burnham, D. R.....Waupaca
Constance, F. R.....Waupaca
Cuff, R. L.....Manawa
Glocke, A. A.....Weyauwega
Green, J. D.....Waupaca, R. F. D. 2
Harrington, M. H.....Waupaca
Harrington, O. C.....Waupaca
Hoffmann, T. W.....Marion
Keating, F. E.....Ogdensburg
Keating, J. R.....Ogdensburg
Kendall, Myron.....Iola
Knoke, Hugo.....Readfield
Knutson, A. C.....Ogdensburg
Kunkel, A. M.....Manawa, R. F. D. 4
Larson, LeRoy.....Iola
Luschow, Harvey.....Marion
Madden, Thos. J.....New London
Meisner, Wm.....Embarrass
Murphy, Arthur.....New London
Murray, R. F.....Manawa
Nace, F. A.....Iola
Pirner, John.....Manawa, R. F. D. 4
Potts, A. R.....Waupaca
Rowe, A. B.....Waupaca
Schmidt, Nicholas.....New London
Steege, Herbert.....Embarrass
Swenson, Henry.....Scandinavia
Williams, F. D.....Welcome

WAUSHARA COUNTY.

Barnes, P. H.....Hancock
Bartleson, Roy F.....Pine River
Byse, Gage B.....Wautoma
Caves, R. E.....Hancock
Eagan, J. J.....Wautoma
Ellickson, Jay.....Wautoma
Hamlin, H. J.....Wautoma
Harris, A. M.....Plainfield
Hughes, John D.....Wild Rose
Jacobs, A. F.....Coloma, R. F. D. 1
Knuteson, E. L.....Wautoma
Peck, W. W.....Coloma
Peterson, Martin..Wautoma, R. F. D. 1
Roberts, Ellis, W.....Wild Rose
Schimonson, Glenn.....Wautoma
Shippee, Geo. S. Jr.....Plainfield
Sforzbach, Emil N.....Plainfield
Wichner, Robt.....Coloma
Wiley, W. J.....Hancock
Williams, G. Elmer.....Wild Rose

WINNEBAGO COUNTY.

Boss, Sam, Jr.....Oshkosh
Boss, U. C.....Oshkosh
Bussey, W. P.....Omro
Calkins, U. B.....Allenville
Cross, A. J.....Allenville
Downs, Benj.....Pickett
Hinz, A. F.....Pickett
Ihrig, J. J.....Oshkosh
Jahnke, Albert.....Neenah, R. F. D. 11
Jennings, Edwin.....Fisk
Jennings, J. W.....Fisk
Krings, Joseph.....Winneconne
Miller, Homer.....Pickett
Ostrander, W. O.....Omro
Plummer, A. P.....Oshkosh
Pommereing, Edw. C.....Oshkosh, R. F. D. 2
Race, Edw.....Omro, R. F. D. 22
Rauchenstein, Emil.....Omro
Roberts, Kiel S.....Pickett
Smith, S. L.....Oshkosh, R. F. D. 45
Teela, F. W.....Winneconne
Treleven, Guy.....Omro

MEMBERSHIP, 1914—Continued.

WOOD COUNTY.

Bean, A. P.....Vesper
Fast, H.....Vesper
Huser, C. J...Grand Rapids, R. F. D. 3
Jensen, Albert.....
.....Grand Rapids, R. F. D. 6
Leu, O. J.....Grand Rapids
Malde, O. G.....Grand Rapids
McFetridge, Wm.....Marshfield
Schroeder, Herman.....Marshfield
Ten Pas, John A.....Arpin, R. F. D. 2

CANADA.

Kramer, C. N.....Walkersville, Ontario

CALIFORNIA.

Belz, F. A.....Visalia, R. F. D. 2

IDAHO.

Douglas, C. O.....Poyette

ILLINOIS.

Albrecht, H. C.....Ohio
Akins, C. E.....Warren
Allen, Frank.....Lyndon
Baltzer, C. J.....Dakota
Bates, Carl A.....Rockton
Bennett, H. J.....Cherry Valley
Bond, Geo. C.....Abingdon
Briggs, Lynn.....Barrington
Brown, Floyd.....Genoa
Bruning, Oliver.....Shermanville
Butler, Donald.....Evanston
Chetlain, L. A.....Galena
Daniels, Dallison.....Oak Park
Dilmer, W. E.....Dakota
Evans, Merle L.....Charter Grove
Frank, W. M.....Red Oak
Graham, M. Y.....East Dubuque
Hellgren, Bessie F.....Plano
Hellgren, Franklin, V.....Plano
Hill, Chas. E. Jr. Chicago, 220 E. 57th St.
Hill, Grant.....Solon Mills
Hitchcock, H. R.....Pectonica
Hult, L. P.....Rockford
Jones, Ira P.....Hinckley
Ker, Alan, W. W.....Rockford
King, Emmet, W.....Russell
Kirchhoff, Ernest....Arlington Heights
Krunrm, F. O.....Glenwood
Layman, Kenneth.....Hubbard Woods
McKenzie, Duncan.....Toulon
McKinley, Wesley.....Elizabeth
Miller, H. H.....Chicago
Care of Albert Dickinson Seed Co.
Miller, R. B.....Antioch
Parker, Merrill.....Hanover
Patterson, H. F.....Genoa
Peckham, Forrest.....Walnut
Pedersen, Bert.....Barrington
Peterson, Perry.....Barrington
Rowe, G. F.....Burlington
Ruser, Arthur.....
.....Chicago, 1943 N. Keeler Ave.
Schafer, F. W.....Hinsdale
Smith, Lounie.....Ringwood
Smith, S. M.....Cedarville
Stevens, Harold.....Prophetstown
Timke, E. D.....Downers Grove
Von Doensing, Ernst.....
.....Chicago, 1947 Hudson Ave.
Vehmeier, Harry.....Rock City

INDIANA.

Heywood, Thos. W.....
Indianapolis, 1510 N. New Jersey St.
Webbe, W. E.....Fort Wayne

IOWA.

Brockmeyer, Roy.....Clayton
Dodge, Raymond.....Clayton
Gronna, Theo.....Waterville
Regan, John C.....Lamotte
Schaub, Fred.....Clayton
Schlake, Herman.....Garnavillo

MICHIGAN.

Arnold, H. A.....Boyne City
Bailey, Herbert A.....Sault Ste. Marie
Eskil, O. F.....Whitney
Freye, Geo.....Topaz
Vandercook, R. I.....Linden

MINNESOTA.

Alcalay, S. J.....Cottonwood
Daellenbach, Chris.....Brainard
Gustafson, W. H.....Truman
Hillier, H. B.....Brownsdale
Holcomb, W. R.....Plummer
Johnson, G. R.....Floodwood
Schafer, Peter.....Stillwater
Stevenson, J. W.....Winnebago
Wiker, N. H.....Mabel

MONTANA.

Bennett, C. S.....Somers
Sattler, Jas. H.....Glendive

NEBRASKA.

Semb, Allen T.....Schuyler

NEW HAMPSHIRE.

Hunter, Roy.....West Claremont

NEW JERSEY.

Weirum, T. B.....Montclair

NEW YORK.

Cady, Foster, B.....Troupsburg
Clark, W. E...Darien Center, R. F. D. 1
Colenso, J. E.....Oyster Bay
Mills, Stanley.....Walden
Schermerhorn, G. B.....Keeseville

MEMERSHIP, 1914—Continued.

N. CAROLINA.

Wood, Geo. C.....Enderton

N. DAKOTA.

Colville, Clarence.....Valley City
Daly, R. E.....Wahpeton
Lawson, A. C.....Kenmare
Thorp, H. O.....Plaza

OHIO.

Baldwin, Geo...Youngstown, R. F. D. 4
Wehr, Perry....Youngstown, R. F. D. 2

OREGON.

Drolshagen, A. F.....Hermiston

PENNSYLVANIA.

Cochran, Fanny.....Westtown, Box 116
Rorer, Wm. A.....Mt. Gretna
Sawville, Florence.....Westtown

UTAH.

Carey, J. E. L.....Fruitland

WASHINGTON.

Newberry, W. T.....Mica, R. F. D. 1

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